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MAY-JUNE 2011

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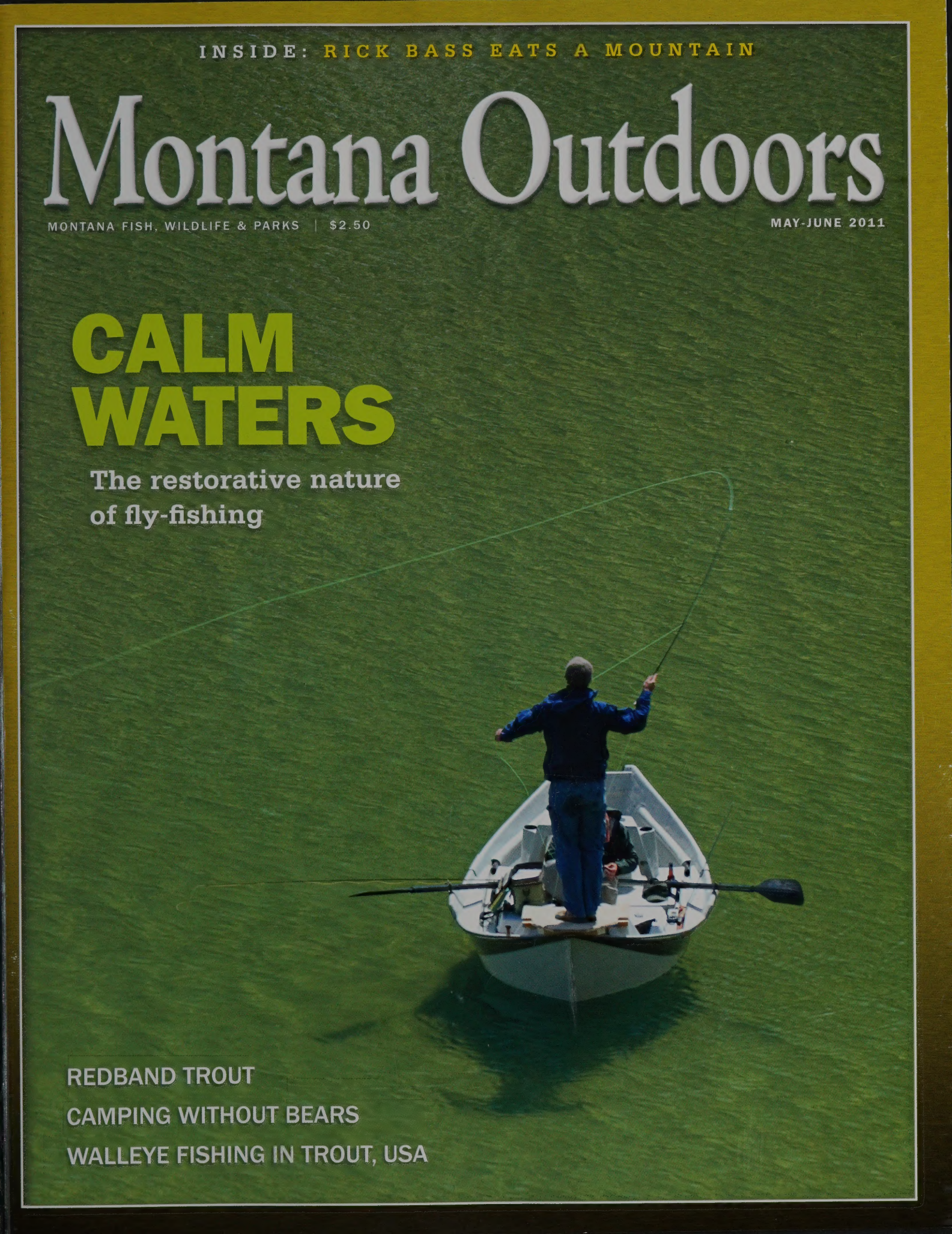
The restorative nature of fly-fishing



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WALLEYE FISHING IN TROUT, USA

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ALLURING ASSORTMENT Walleye crankbaits await deployment on Fort Peck Lake. Walleye fishing advice for beginners starts on page 10. Photo by Larry Kruckenberg.

FRONT COVER Read how fly-fishing is helping wounded veterans heal on page 32. Photo of Cliff Lake, near West Yellowstone, by Brian & Jenny Grossenbacher.

Montana Outdoors

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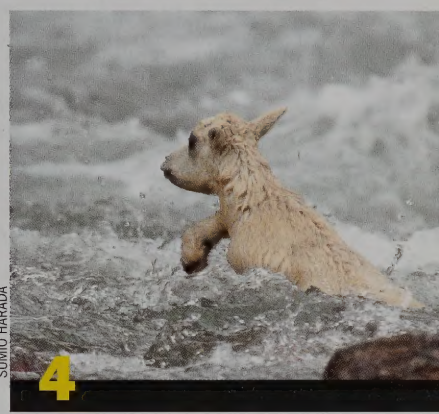

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On bighorn sheep

I was very disappointed where you wrote in the bighorn sheep article ("The Bighorn's Rocky Recovery," March-April): "A hunter illegally killed the last of the Montana badlands wild sheep." A hunter did not kill the sheep. A poacher did.

Brian Cooke
Bozeman

Excellent article on bighorn sheep. Very informative. A few years ago I read that Montana sends bighorns to other states (I think it was Utah). Is that still done and, if so, why?

J. Michael Cameron
Spokane, WA

Tom Dickson responds: Of the 2,560 wild sheep FWP has trapped over the past 70 years, 465 were sent to other states, while the majority were relocated to other sites in Montana. The most recent out-of-state relocations were 55 sent to Utah in the winter of 2008-09.

According to Tom Carlsen, author of the state's bighorn conservation strategy, out-of-state relocations were done mainly in the 1990s and 2000s, when Montana's wild sheep population was expanding and filling available habitat here. FWP sent bighorn sheep to other states when there were no more feasible spots in Montana to put them.

FWP establishes an objective for each population in the state's several dozen bighorn sheep hunting districts. That number is based on the land's biological carrying capacity and how close wild sheep herds are to domestic flocks. Bighorn populations that exceed objectives can overgraze habitat and cause young males to venture farther out to where they can mix with domestics and contract disease, Carlsen says.

FWP uses hunting to bring populations down "to objective," but hunter harvest doesn't always do the trick. If FWP increases permits in hunting districts that have overabundant bighorns, hunters tend to focus on the more accessible sheep rather than those far in the backcountry. That can potentially wipe out entire herd segments.

In cases where increasing licenses won't work, FWP traps bighorns in late winter when the animals move to lower elevations and are more accessible. Usually those sheep are relocated elsewhere in Montana. But Carlsen points out that wild sheep can't be put just anywhere. Bighorns can't be relocated too close to domestic flocks or to areas lacking sufficient habitat to support a healthy herd. FWP could put bighorns where existing wild herds have been reduced by pneumonia. But because the disease can persist for years, the newcomers could become infected. For all these reasons, Montana has sent some bighorn sheep to other states.

Carlsen says that over the past few years wildlife managers have redoubled efforts to find additional places in Montana to establish new populations or augment existing ones. "Offering as much bighorn hunting opportunity to our hunters remains our top priority," he says.

Wrong rock

I have admired your magazine for many years but must point out two factual errors in the March-April issue. On page 20 you show an image of agates that presumably are from Montana. The two largest specimens are not. They are most likely from Mexico. Also, the timeline shown at the bottom of pages 26 and 27 and accompanying text give the wrong impression that the Cascades are only 5 million years old. The volcanoes are about that age, but the underlying mountains predate the Columbia River basalt flows. We know that because the flows were confined by the preexisting Cascade Mountains and forced to flow down the ancestral Columbia River Valley as they moved westward from vents in eastern Washington.

Mike Garverich, geologist
Bozeman

The real Montana moss agate

BROOKS BRITT

Wrong grass

I love your magazine but thought I should clarify a few facts in your piece on Montana's state grass ("Standing for Montana," March-April). Bluebunch wheatgrass is now classified as *Pseudoroegneria spicata*. Also, I believe you were talking about blue grama (*Bouteloua gracilis*), not blue gamma, when you wrote that ranchers don't like that grass. By the way, though it's not preferred by Montana ranchers, blue grama is the grazing grass of choice in many parts of the West, and it sustains much of the elk herd in the southwestern states.

Matt Reeves
Florence

Homesick

I had to leave Missoula in 2002 to return to my home state of Louisiana to care for my aging parent. A few years ago, a dear friend gave me a subscription to *Montana Outdoors* to be sure I would remain homesick for my beloved adopted home. I wallow in the magazine each time it comes and read it cover to cover. Thanks for keeping me connected to the place I love the most.

Cathy Boumans
Broussard, LA

Write to us

We welcome all your comments, questions, and letters to the editor. We'll edit letters as needed for accuracy, style, and length. Reach us at Montana Outdoors, P.O. Box 200701, Helena, MT 59620-0701. Or e-mail us at tdickson@mt.gov.

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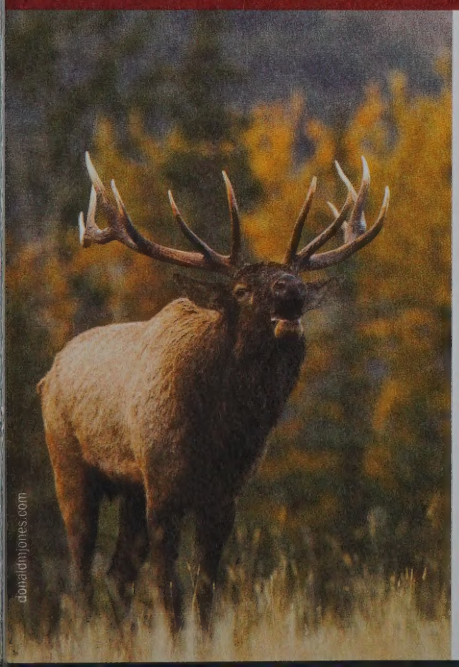

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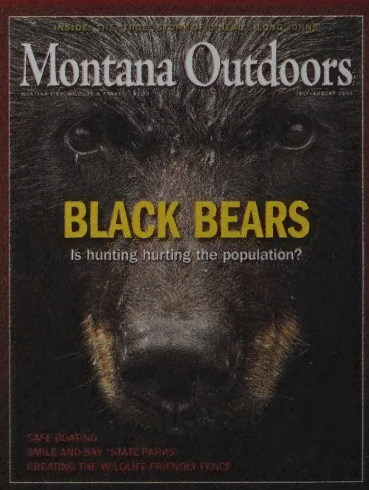

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Off to a Wild Start

I'm excited to announce that, after five years of planning, fund-raising, and construction, Montana Wild is officially open.

Montana Wild is FWP's new outdoors learning center and wildlife rehabilitation facility, along with 5 acres of land, all of which are part of the Spring Meadow Lake State Park complex in Helena. The learning center occupies a fully refurbished building, originally built in 1892, that once housed the Stedman Foundry and Machine Company. Inside the 7,000-square-foot building are meeting areas—already being used by local conservation groups—and a hands-on science laboratory with microscopes and animal skulls. A central exhibit area features a stream aquarium soon to contain live trout, sauger, and channel catfish. In the works are plans for interpretive displays and a diorama, as well as video cameras that will show visitors live black bears at the wildlife rehabilitation facility next door.

Outside, work is almost complete on Montana Wild's new youth archery range, a paved trail to Spring Meadow Lake, and a fishing dock. Raptor perching pens will allow visitors to see the great horned owl and other "ambassador birds" at the rehab center. Also in the works are demonstration gardens, a birding trail, a natural play area with trails and shallow water discovery sites, and an outdoor amphitheater.

Funding to acquire and refurbish Montana Wild came from the Helena-based Foundation for Animals, state and federal grants, insurance money after two fires at the foundry building, and some fishing and hunting license revenue.

Montana Wild was created to sustain our state's high quality of life. Montana is famous for its wildness. Hunting, fishing, camping, hiking, and wildlife watching in scenic mountains and open prairies are what make us who we are—not to mention attracting visitors who fuel our state's valuable tourism economy. But to conserve clean water, healthy forests, diverse sagebrush steppes, and fish and wildlife populations, we need people who value the natural world and help out in its stewardship.

People care about what they understand and experience firsthand. That's the purpose of Montana Wild—to provide an entry-level opportunity for Montanans to learn about and enjoy the outdoors so they become stewards of our natural resources.

Staff at Montana Wild have been working with the state Office of Public Instruction, school districts, and the Governor and First Lady's Math and Science Initiative.

Kids can learn about the physics of a grizzly bear's jaw, or how algebra assists in trout management.

One idea is for the center to inspire students to study and pursue careers in science, mathematics, engineering, and technology. Promoting these academic fields through the outdoors may sound odd, but it actually makes sense. Many kids are intrigued by wildlife but not math and science. At Montana Wild they can learn, for instance, how the laws of physics allow a grizzly bear's jaw to crush a moose femur, how algebra assists in trout management, and why chemistry makes a prairie rattlesnake's venom deadly to small mammals.

There's no guarantee such lively lessons will create new physicists, mathematicians, or chemists, but education experts think it could help. What's more, this approach will bring students outdoors during some science and math classes, which can help offset the increasingly sedentary lifestyle of so many young people these days.

At FWP, we want to see kids fired up about spending time outdoors. Montana Wild is just the place to ignite that flame.

—Joe Maurier, *Montana FWP Director*

To volunteer at the outdoors learning center or make a donation for interpretive displays, e-mail Laurie Evarts at levarts@mt.gov.

KENTON ROWE

FWP's new outdoors learning center introduces young people to nature and its wild inhabitants.

Photographer **SUMIO HARADA,** who lives near West Glacier, took pictures of a mother mountain goat (shedding her winter coat) and her kids crossing a stream in Glacier National Park in mid-June near the Walton Goat Lick. "It's an exposed riverbank where minerals concentrated in the soil attract mountain goats," Harada says. "To reach the lick, goats sometimes have to cross Sheep Creek or even the Middle Fork of the Flathead River. This mother wanted to cross the creek, but it appeared too fast for the kids, so she kept hesitating. I watched them for more than an hour, until finally she leaped over the stream and the kids immediately jumped in after her. As you can see, they all made it."

END OF THE LINE An exhausted pronghorn rests while trying to plow through record-deep snow in northeastern Montana. Desperate to escape tough winter conditions, many pronghorn followed railroad tracks, only to be crippled or killed by trains.

Wildlife (and hunting licenses) hit hard by the tough winter

Andrew Jakes has seen many dead pronghorn over the past few years, but nothing like what he witnessed this recent winter. Along one quarter-mile stretch of railroad track between Havre and Malta, he saw where a freight train had plowed into a herd of 170 pronghorn. "The lucky ones got killed right away," says Jakes, who has been studying the animals' migration routes as part of a doctoral project with the University of Calgary.

Train tracks became death traps for pronghorn across northern and northeastern Montana. At another site 20 miles northwest of Glasgow, more than 450 pronghorn were killed or injured by trains during January, requiring FWP game wardens to dispatch 100 injured animals.

Jakes says pronghorn respond to cold and snow by migrating south. "This year a lot of them headed south of U.S. Highway 2 to get south of the Charles M. Russell National Wildlife Refuge and locations beyond, where the snow is not so deep," he says. "Usually they can move along ridgetops that hold less snow, but this year some of the only places they could travel were along highways and train tracks, and that's where many got nailed."

FWP officials estimate that more than 1,000 pronghorn and deer were killed on railroad tracks across the region.

Bitter cold and record-breaking snowfall combined to make the winter of 2010-11 one of the toughest for wildlife in years. By April 1, Glasgow had received 112 inches of snow, 6 feet more than average. Temperatures across the Hi-Line dropped as low as -40 degrees F. Even in late February, when temperatures ordinarily begin to moderate, Cut Bank posted a low of -35 degrees and Glasgow dipped to -30 degrees.

Pronghorn feed in winter by pawing through snow to reach grasses and sagebrush, but this winter they often couldn't dig through the deep drifts. "We found they were eating yucca, which has no nutritional value at all," Jakes says. "It's like me eating my leather gloves."

> "We found they were eating yucca, which has no nutritional value at all. It's like me eating my leather gloves."

Brutal conditions were also tough on deer. Kelvin Johnson, FWP wildlife biologist in Glasgow, says ranchers throughout the region reported more depredation damage than usual as whitetails and mule deer crowded into feed yards and whittled down haystacks. Fawns were especially vulnerable to the cold, as were bucks that had burned up calories during the fall rut and entered winter with few fat reserves.

In many areas pheasants also took a beating. Some suffocated from blowing snow that clogged their beaks; other died of hunger or exposure. Many ranchers and farmers reported seeing more birds than usual in shelterbelts near homes and in feedlots, says Johnson. Cattails ordinarily provide thermal cover for both pheasants and deer, but the biologist says snow was so deep this winter that sloughs filled up. "I walked along one trail made by deer through some cattails, and

the snow was up to my armpits," he says.

Johnson notes that not all wildlife suffered. Bald and golden eagles, magpies, crows, coyotes, and other scavengers found more food than usual from this year's abundant winterkill. "It's all part of the cycle of life," he says.

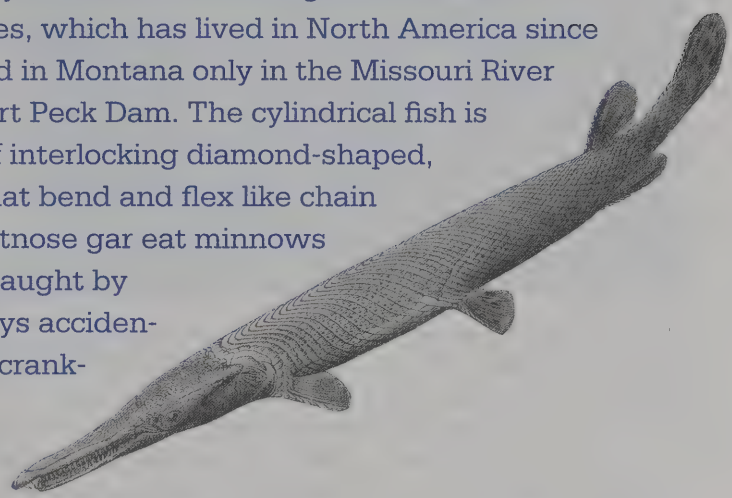
Winterkill elsewhere in eastern and north-central Montana also was severe, say FWP officials. "The snow wasn't as deep here as in Glasgow, but it was definitely bad enough," says Brad Schmitz, FWP southeastern region supervisor in Miles City. "We're seeing similar losses of antelope and deer. And game damage to haystacks has been the worst anyone can remember in years."

Gary Olson, wildlife biologist in Conrad, says conditions there were tough. "I've been here 35 years, and I don't remember a colder winter in Conrad than what we just had," he says. "We're hearing about a lot of antelope die-offs north of here between Highway 2 and the Canadian border."

John Ensign, regional wildlife manager in Miles City, says lower pronghorn and mule deer numbers in the region will require FWP to reduce the hunting harvest so big game populations can recover. "That means cutting back on licenses for the 2011 hunting season," he says.

Survey flights in April and July will give wildlife biologists a clearer picture of just how bad the losses are. Mark Sullivan, FWP regional wildlife manager in Glasgow, says he's not optimistic. "Based on what we saw this winter, there's no doubt that we'll have to lower the number of mule deer and antelope licenses to allow these populations to rebuild."

The shortnose gar may be Montana's strangest native fish. This prehistoric species, which has lived in North America since the dinosaurs, is found in Montana only in the Missouri River dredge cuts below Fort Peck Dam. The cylindrical fish is covered in a sheath of interlocking diamond-shaped, enamel-hard plates that bend and flex like chain mail as it moves. Shortnose gar eat minnows and are occasionally caught by anglers—almost always accidentally—using live bait, crankbaits, or spinners.



How FWP uses your fishing license dollars

Anglers interested in current fisheries management can learn what FWP is doing statewide in a recently released electronic publication. The *2011 Fishing Newsletter* provides reports from FWP biologists across Montana on how they protected and restored aquatic habitat, helped maintain adequate stream flows and water levels in lakes and reservoirs, and used hatcheries to rear fish for recreation and native fish recovery. Examples:

- Jon Hanson reports on bass monitoring on Noxin Reservoir;
- Chris Clancy gives an update on the Bitterroot River;
- Jim Magee highlights arctic grayling conservation work;
- Heath Headley discusses Fort Peck Lake;
- Grant Grisak tells what's new on the Missouri River below Holter Dam; and
- Mike Ruggles explains the Bighorn River's water controversy, sauger management on Bighorn Lake, and Yellowstone cutthroat trout restoration in the Pryor Mountains.

Read the newsletter in pdf or eBook form at fwp.mt.gov/fishing/newsletter/.

FWP fisheries workers monitor burbot on the Missouri River. A new electronic newsletter details these and other management activities.

Thanks—and please pass the gravy

Many landowners who participate in Montana's Block Management Program were treated to appreciation dinners or barbecues earlier this year. "It's a small opportunity for us to thank them for this big thing they are doing by allowing the public to hunt on their property," says Michael Nye, Block Management Program coordinator for FWP's northeastern region.

Events ranged from low-key get-togethers attended by a dozen landowners to large banquets like the one in Miles City, which drew 300 people. Appreciation events were also held in Glendive, Havre, Malta, Glasgow, Plentywood, Helena, Harlowton, Shields, Philipsburg, Missoula, Helmville, and Drummond. In west-central Montana, which has relatively few Block Management cooperators, coordinator Bart Morris arranges small barbecues where landowners can meet with FWP staff. "It's important to sit down with people face to face and discuss things that concern them," he says. "These events help build and maintain those relationships."

Alan Charles, FWP coordinator

CLOCKWISE FROM TOP LEFT: DAVID GRUBBS/*BILLINGS GAZETTE*; PUBLIC DOMAIN ILLUSTRATION; FWP; DAVE HAGENGRUBER/FWP

Block Management cooperators and guests enjoy an appreciation dinner in Miles City, held to thank them for granting public access.

of landowner/sportsman relations, says many dinners include a meeting beforehand where FWP biologists and game wardens answer questions from cooperators. "Besides being a way to acknowledge landowners' contributions, the dinners provide an efficient means for us to communicate information about FWP and the Block Management Program, and for cooperators to share their information and ideas with us and each other," he says.

Members of sportsmen's clubs often hand out gift certificates and other raffle prizes and single out cooperators for special recognition. Nye says the dinners also give landowners a chance to meet each other. "It's a great way to get together after a long winter. For some of these landowners, it's the social event of the year."

According to Steve Atwood, Block Management Program coordinator for FWP's southeastern region, the socializing can continue late into the night. "The dinner itself will be over at 8 p.m.," he says, "but people often stay until midnight, with landowners and biologists and game wardens all sitting around talking, getting to know each other."

Wolverines one step closer to federal listing

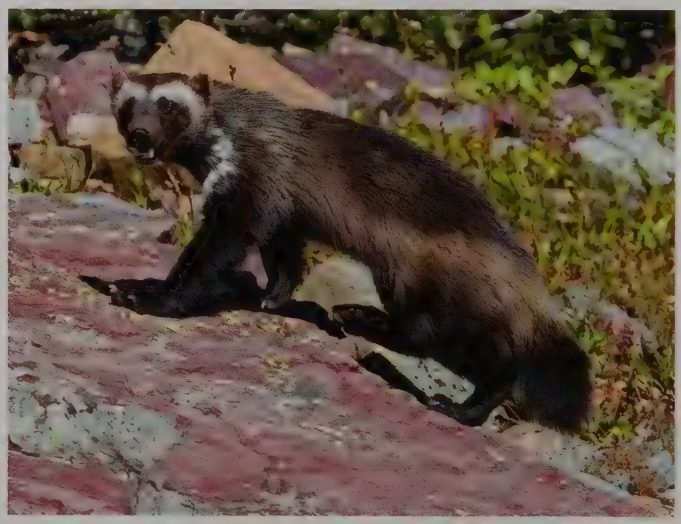
The U.S. Fish and Wildlife Service (USFWS) announced in December 2010 that wolverines in the lower 48 states are warranted to be listed under the Endangered Species Act (ESA). But the agency added that wolverines, the largest member of the weasel family, are precluded from full protection because other species are even more imperiled. The decision puts the distinct population segment of wolverines on the ESA candidate list but keeps management of the species under state control. The USFWS will review the status of wolverines each year.

"The threats to the wolverine are long-term due to the impacts of climate change on their [deep snow] denning habitat, especially important to assist the species in successful reproduction," says Steve Guertin, director of the USFWS Mountain-Prairie Region.

Montana maintains a healthy wolverine population thanks to the state's abundant high-elevation habitat, which includes national forests, national parks, and wilderness areas. Snow track surveys and harvest records indicate that wolverines live in nearly every mountain range in western Montana. "The wolverine appears to tolerate human activity as long as it has enough food, mountainous forested habitat, and abundant snowpack for denning," says Brian Giddings, FWP Furbearer Program coordinator.

Montana is the only state other than Alaska that allows a wolverine trapping season. "Over the past 25 years, the state's healthy, well-distributed population has allowed for a consistent average yearly total harvest of ten wolverines," says Giddings. He adds that the quota was recently reduced to five in order to foster population connectivity in several critical linkage habitats.

The USFWS made a similar "warranted but precluded" decision on the greater sage-grouse in March 2010. The sage-grouse is another species faring poorly in some states but doing well in Montana.



Though healthy in Montana, wolverine populations in many other western states are not faring so well, mainly because of shrinking habitat.

THE MUDDLER MINNOW

One of the most popular trout flies in North America is the Muddler Minnow. It was invented in 1937 by Dan Gapen, an Ontario guide and resort owner. He created it to catch large brook trout on the Nipigon River. Also known as the Muddler Fly, the pattern was later popularized by Montana fly-tier and guide Dan Bailey of Livingston.

The fly has a large head made with a single clump of spun deer hair, trimmed round, with mottled wild turkey quill segments comprising the tail and wing. The name may come from the fly's clumsy movement in water or the fact that it was originally tied to mimic a sculpin—a large-headed prey fish that swims along the "mud" of river bottoms.

In addition to sculpins, the Muddler Minnow and its countless variations—including the Conehead Marabou Muddler, Bunny Sculpin, and Letort Hopper—imitate a wide range of trout and other game fish foods, including leeches, crayfish, grasshoppers, stonefly nymphs, and minnows. Besides trout, Muddler Minnow–type flies have been used to catch everything from tigerfish in Zimbabwe to tarpon in Belize to king salmon in Alaska.

Anglers strip a Muddler Minnow along the surface, or cast it against riverbanks and let it float to mimic a grasshopper. Some cast a weighted version down and across stream, then swing it like a wet fly. Anglers also pinch a split shot in front of the fly, sink it to the bottom, then strip it like a streamer.

TOP PHOTO: FWP; MUDDLER MINNOW: ISTOCKPHOTO; WOLVERINE: DONALDMJONES.COM

ELK AND MORELS

Eating the mountain that feeds my family. By Rick Bass

I take off one afternoon to run up one of the mountains above my home to look for the morels that sometimes grow in the burned forests up there. It's one of the mountains that feed my family, one on which we are fortunate enough some years to take an elk. And this one day, strolling through the maze of standing fire-gutted black spars, and also among the living trees that survived the fire, I'm fortunate enough to find a patch of morels. These brown-and-charcoal, thumb-sized fungi will be delicious when cooked in the same skillet as the thawed steaks of the elk, which also came from this mountain: the decomposing rock, the soil itself, bringing life to both the elk and the morel, as well as to me, so that if we are not mountains ourselves, moving and gifted briefly with life, we are always a part of these mountains, the arms and legs of these mountains, wandering here and there though returning always to the base of these mountains, which feed our bodies and our imaginations.

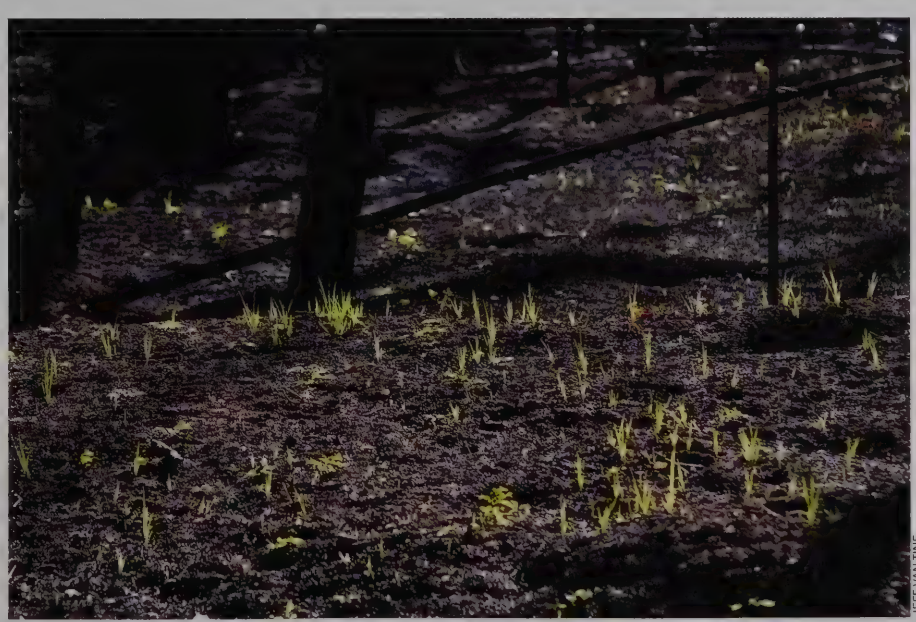
The last time I was up here there weren't any morels, though the spars were blackened, seeming even blacker then, in the snow, than they do now—although still, the darkened, dead tree trunks leap out amid all the emerging, amazing green. The previous November I was following the tracks of a herd of elk through new wet snow—ash and slippery clay just beneath the snow gumming up on my boots, mixing in with all that snow—and I moved carefully, slowly, walking then stopping, trying to appear—if glimpsed stationary by elk eyes—as vertical as any of the hundreds or I suppose thousands of spars through which the elk and I were passing.

The trail passed on through the burn and into the old forest where the burn had petered out, and then over a ridge, where the fire appeared to have stopped completely. The elk were on the other side of that ridge, a north slope, and the breeze was coming toward me. If I live to be a hundred, I hope never to tire of the thrill you get when that current of scent first drifts your way.

There is a certain recipe for preparing an elk, when you are fortunate enough to take not just an elk in autumn, but also, roughly six months later, in May, morels. You lay the slice of elk meat in the heated iron skillet, with some melted butter and a little salt and pepper, and slice in those morels, sautéing them with the elk meat; and after only a short while, you shut the flame off and let the elk's muscle, warmed in that skillet as if back into life, continue cooking on its own.

Because there's no fat in the meat, the elk muscle conducts heat quickly, as copper wire conducts the galvanic twitchings and shudderings and pulsings of electricity; and the flavor of the morels is absorbed into that warming meat, as the elk in life once browsed on the same terrain, the same soil, upon which these morels were growing, yesterday: and in that manner, once again the meat is suffused with the flavor of the mountain, so that you are eating the mountain, eating the mountain straight from the black skillet, so delicious is it; and timing this last wave of skillet-heat, knowing when to turn the flame off and simply let the heat of the meat cook itself, is like catching a wave, a surge, and riding it in to shore. The deliciousness of such a meal is no less a miracle than a blackened field turning to green life almost overnight, the low fire beneath the skillet glimmering out, perhaps reminding the hunter of the July or August fires that spawned the grasses that fed the elk, and from whose ashes emerged the morels that fed the hunter.

The elk roaming through our chests and arms, the elk galloping in our legs, the mountain sleeping in our hearts, present always, whether we are waking or sleeping: rhythms within rhythms within rhythms, which we will never know, but can always honor.



JEFF VAN TINE

Rick Bass is a novelist and nonfiction writer who lives in the Yaak Valley and Missoula.

Welcome To Walleye

Expert advice for anglers who are finally ready to

EYE ON THE PRIZE The walleye's eyes appear clouded or glassy in sunlight because of a reflective layer of pigment behind the retina called the *tapetum lucidum*. Similar to that in a cat's eye, this ocular feature allows the retina to absorb extra light, providing the walleye with excellent vision in dark or muddy water. The "wall" in the species' name likely derives from the Icelandic word *vagl*, meaning "film over eye."

Fishing branch out from trout

By Mark Henckel

Montana is justifiably famous for its trout fishing. But unknown to most of the world—except walleye anglers themselves—is our state's wonderful walleye fishing.

Just ask Dale Gilbert, an Ulm-based fishing tournament professional who has competed on many of the nation's top walleye waters. "We don't realize how good we have it here in Montana," he says. "We've got some of the best walleye fishing in the country practically right out the back door."

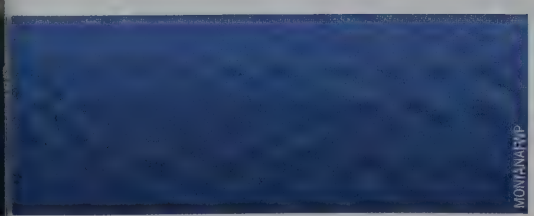
It's tricky to compare one state's walleye fishing to another's. But consider that anglers regard a walleye over 10 pounds as a trophy—for most, a trophy of a lifetime. According to Minnesota's Department of Natural Resources, lakes in that walleye-obsessed state are fished so hard that 10-plus-pound walleyes are almost unheard of anymore. Compare that to Montana, where anglers so regularly catch 10-, 11-, and even 12-pounders that the news hardly gets mentioned (though 15- or 16-pounders definitely draw attention). And angling pressure is so intense in Minnesota that on the state's premier walleye lake, Mille Lacs, it takes an average of eight hours to catch a single walleye. Compare that to Montana's Canyon Ferry Reservoir (the only lake on which Fish, Wildlife & Parks biologists track catch rates), where anglers catch one fish every three to four hours.

Certainly Montana can't compare to the number of walleye waters in other states (both Wisconsin and Minnesota contain more than 1,000 each), but our Fort Peck Lake and Canyon Ferry, Holter, Tiber, Cooney, Fresno, and Nelson Reservoirs, along with the Missouri and Yellowstone Rivers, provide enough walleye fishing opportunities to last a lifetime.

What's the appeal of these members of the perch family and close cousins to Montana's native sauger? Above all, walleyes are one of the best-tasting fish on the planet, with white, bone-free fillets. These coolwater fish are also beautiful and live in scenic reservoirs and rivers. But maybe their greatest appeal is that they are such a challenging puzzle. For dedicated anglers like me, solving the mystery of where walleyes are and what they will bite—factors that change from day to day and even hour to hour—can become all consuming.

Learning to catch walleyes can be ridiculously simple. For instance, take Missoula's Bob Hart. Though an experienced trout angler, Hart had never fished for walleyes before one day in November 2007 when he drove to Tiber Reservoir, about 65 miles north of Great Falls. He set up a lawn chair on the bank, put a sucker minnow on his hook, cast it out, then sat down to wait.

The first day he caught a 14-incher, his



first walleye. The second day things got a little crazy. Hart hooked and landed a nearly 3-foot-long walleye weighing 17.75 pounds that became (and remains) the Montana state record. It doesn't get any simpler.

On the other hand, walleye fishing can call for complex angling strategies and extensive equipment. A typical setup used by hard-core walleye anglers like Gilbert is a 17- to 21-foot boat with two outboard motors (a big one for running the lake and a small one for trolling), an electric trolling motor, two fish locators equipped with GPS, a half-dozen or more fishing rods and reels, and several tackle boxes overflowing with lures, plastic baits, swivels, and sinkers.

I pointed out to Gilbert that his walleye rig set him back tens of thousands of dollars, while Hart hooked the state record sitting in a lawn chair that cost $10. He laughed at the irony. "You definitely don't have to have a boat like mine to fish for walleyes," he says. "I started out with a 14-footer that had a little 9.8-horsepower outboard, and I caught a lot of nice fish and had a good time. Sure, with a smaller rig you have to be a little more careful about fishing big reservoirs or getting caught in a storm, but otherwise they can be real effective."

LUND BOATS

GEARED UP FOR BATTLE Bigger boats definitely make fishing on large reservoirs like Fort Peck and Canyon Ferry safer. And trolling motors, fish finders, and GPS can add to your success. But walleye fishing doesn't necessarily require spending a small fortune. Anglers in 14-foot boats with small outboards catch fish on many Montana reservoirs, as do anglers who fish from shore.

BASIC TACTICS

Walleye anglers use four basic techniques. One is to fish a jig—a hook with a molded lead head—tipped with a minnow, leech, night crawler, or plastic bait. You cast the jig into the water, let it drop to the bottom, then slowly retrieve it while raising and lowering the rod tip so the jig bounces along. Or drop it down off the side of the boat and "jig" it up and down just off the bottom. Walleyes usually hit a jig as the lure is falling and the line is slack, so beginners often miss several takes before acquiring a feel for a bite.

Another method is to fish a spinner-and-'crawler harness—a colored spinner blade followed by two hooks tipped with a night crawler. The harness is attached 18 to 36 inches from a bottom-bouncer sinker. As an angler slowly trolls along in the boat, the sinker skips across the bottom while the 'crawler harness rides up a few feet to where walleyes lurk. Popular spinner blade colors are orange, chartreuse, green, perch-finish, and blue-and-silver. Pink works well too, though we manly types prefer to call it light red, bubblegum, or watermelon.

The third method is to use a crankbait—a minnow-shaped plastic or wood lure such as a Rapala—either by casting and retrieving or by trolling it behind a slow-moving boat.

The fourth method, best for shore fishing, is to use a floating jighead tipped with half a night crawler with a slip sinker (also known as a Lindy Rig) attached about 18 inches below. Cast out and wait. (For more on shore-

SMASH_JENNIFERGLOSSER.COM

FRIED HEAVEN The main reason for the walleye's popularity: sweet, bone-free fillets.

Mark Henckel, longtime outdoors editor for the Billings Gazette *and a fixture in Montana's walleye fishing community, died unexpectedly in 2010.*

fishing for walleyes, see sidebar on page 15.)

Jigs typically works best in cold water. Walleyes are sluggish then and won't chase fast-moving baits. Jigs work because you can make them rise and fall slowly. Because jigs are made of lead, they also work well on rivers any time of year when you want to get your lure down through the current to the bottom.

As waters warm and walleyes become more active, boat anglers switch to 'crawler harnesses and trolled crankbaits. Trolling allows your lure to cover more water, and as their metabolism heats up, walleyes are more likely to go after a moving object. Jigs can be handy in summer when you've been trolling a crankbait or 'crawler harness and luck into a concentration of fish. That's when you anchor, tie on a jig, and intensively fish the hotspot.

TACKLE

It doesn't take a fancy rod and reel to catch walleyes. An inexpensive combo that costs $30 or less will do fine. The only problem with cheap rigs is that the reel bearings often wear out quickly, ruining the reel, and the fiberglass rod can't detect the subtle walleye bite as well as a more expensive graphite or boron rod can.

Experienced walleye anglers usually carry several rods. One is a spinning rod and reel for jigs, loaded with 6- or 8-pound-test monofilament. Another, used for 'crawler harnesses and crankbaits, is a stiff rod and an open-spool bait-casting reel loaded with 10- to 17-pound-test monofilament. You don't actually need anything stronger than 8-pound-test line to land a walleye, even a big one, because the rod and the reel's drag absorb much of the pull. But a spinner rig or crankbait trolled near bottom can snag debris, and you'll need heavy line to pull it free.

The many other gadgets you see in sporting goods stores have their uses. On big reservoirs, it helps to have a fish finder to locate walleyes and structure and a GPS to find hotspots and avoid getting lost. Electric trolling motors are good for saving gas and staying quiet when you want to move slowly along a shoreline.

Still, Gilbert says all a first-time walleye angler really needs is a spinning rod and reel with an assortment of jigs and a few crankbaits. As for a boat, he says an expensive rig can get you around faster and allow you to stay on the water longer and with more comfort. "But anything that floats and can get to spots that hold fish will work fine when you're getting started," he adds.

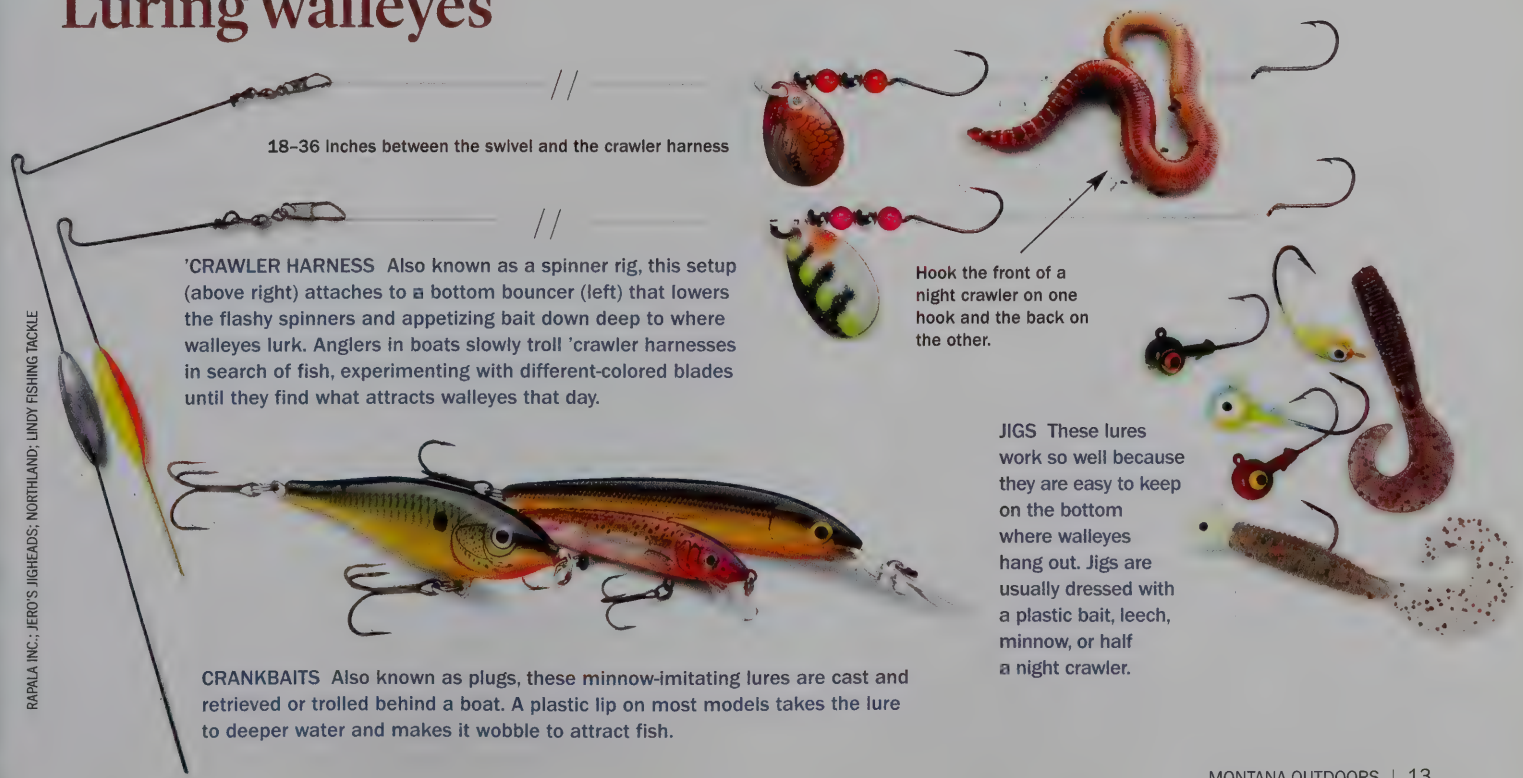
Pink works well too, though we manly types prefer to call it light red, bubblegum, or watermelon.

WHERE TO FISH

All Montana walleye waters are east of the Continental Divide. The biggest—and one that requires a good-sized boat and motor to fish safely—is 135-mile-long Fort Peck Lake, which at times can seem more like an ocean than an inland reservoir. "We see quite a few

continued on page 17

Luring walleyes


18–36 inches between the swivel and the crawler harness
'CRAWLER HARNESS Also known as a spinner rig, this setup (above right) attaches to a bottom bouncer (left) that lowers the flashy spinners and appetizing bait down deep to where walleyes lurk. Anglers in boats slowly troll 'crawler harnesses in search of fish, experimenting with different-colored blades until they find what attracts walleyes that day.
Hook the front of a night crawler on one hook and the back on the other.
JIGS These lures work so well because they are easy to keep on the bottom where walleyes hang out. Jigs are usually dressed with a plastic bait, leech, minnow, or half a night crawler.
CRANKBAITS Also known as plugs, these minnow-imitating lures are cast and retrieved or trolled behind a boat. A plastic lip on most models takes the lure to deeper water and makes it wobble to attract fish.

RAPALA INC.; JERO'S JIGHEADS; NORTHLAND; LINDY FISHING TACKLE

Montana's top walleye waters

1 **Fort Peck Lake** Starting in May, the fishing here is best in the upper reaches and Big Dry Arm. As summer progresses and waters warm, good fishing extends to the reservoir's middle reaches and dam area.

2 **Canyon Ferry Reservoir** This is a popular walleye and rainbow trout fishery for Bozeman and Helena anglers and those from west of the Divide. Action begins in June and lasts well into summer. In early summer, look for crowds of boats on the lake's south end. Walleyes move northward into deeper waters through summer and fall.

3 **Tiber Reservoir** Home of the current Montana state record, it's also known as a solid, self-sustaining walleye fishery that produces plenty of eaters.

4 **Bighorn Lake** Straddling the Montana-Wyoming state line, it has a good walleye and sauger fishery. It's fished primarily with jigs near steep banks or with trolled crankbaits for suspended walleyes.

5 **Cooney Reservoir** This Carbon County reservoir offers anglers both walleyes and rainbow trout. Many walleye anglers fish from dusk well into the night.

6 **Yellowstone River** From the Hysham area downstream there is good fishing for both walleyes and sauger. Fishing is often best in late summer, fall, and into winter.

7 **Holter Reservoir** This Missouri River reservoir north of Helena offers good fishing for both walleyes and rainbows. It's also one of the prettiest places in Montana where anglers can fish for walleyes.

8 **Nelson Reservoir** June is the best month to fish this lake, east of Malta. Nelson is also a good spot to catch walleyes through the ice.

9 **Lower Missouri River** Anglers fish the river both above and below Fort Peck Lake. Above the reservoir, it's a great spring and fall fishery. Below, there's good fall fishing.

10 **Tongue River Reservoir** Many walleyes are caught out of this Big Horn County water, which is better known for its crappies and smallmouth bass.

11 **Fresno Reservoir** This reservoir near Havre on the Milk River produces decent-sized walleyes.

Learn more about these and other walleye waters in the Montana Fishing Guide: fwp.mt.gov/fishing/guide

DARK WATER PREDATOR Like brown trout, walleyes avoid bright light. That's key to knowing when and where to catch them. On bright days walleyes will be deeper, where the sun's rays can't penetrate as far. At night, on cloudy days, and during low-light periods of dawn and dusk, walleyes move shallower and become more active. A "walleye chop" is when enough wind creates waves that diffuse light entering the water, allowing walleyes to move shallower.

BILL LINDNER/WINDIGOIMAGES.COM

Walleyes without a boat

A boat makes catching walleyes easier, but it's not essential. Plenty of walleyes—including the state record—have been caught from shore.

Cody Nagel is an FWP fisheries biologist who grew up shore-fishing on walleye lakes throughout North Dakota. Now based in Havre, he catches walleyes without a boat at nearby Fresno Reservoir. His techniques, which he says should also work on most of Montana's other smaller walleye reservoirs:

WHEN: Walleyes become more active at low light and move into shallower water to feed. "The best time of day is dawn and dusk," Nagel says. "The best times of year are April through June and then September through November, when the fish are shallower and feeding more aggressively."

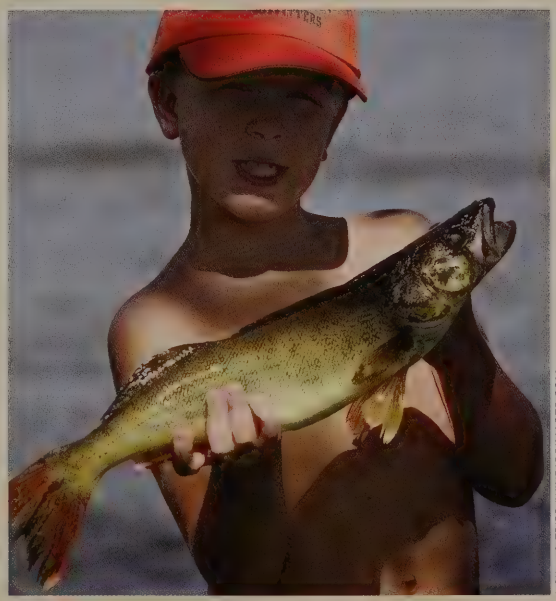
WHERE: Nagel has caught walleyes almost everywhere along the Fresno shoreline. His best fishing has been off points or other places where shallow water is close to deep water. "In midsummer I concentrate on the shoreline closer to the dam, where the water is deeper," he says.

HOW: Nagel wades out waist deep so he can cast farther and cover more water. He fishes a ⅛- to ¼-ounce leadhead jig tipped with a plastic bait or half a night crawler. He will also use a floating Rapala or other crankbait, making several casts before moving a few more yards along the shoreline. "If you see a guy at Fresno at night in waders and a headlamp, that's probably me," he says.

Nagel notes that stationary anglers also catch fish at Fresno. "Some people do real well just sitting on shore, casting out an egg sinker with a floating jighead tipped with a leech or night crawler," he says. "At dusk, the fish are moving and they will find your bait, so you can just sit there and read a book or watch your kids play along the shore and still catch fish."

OTHER SHORE-FISHING WATERS: On other walleye lakes, Nagel recommends fishing off rocky points or other shoreline structures that extend into the water. On walleye rivers such as the Milk, Marias, and Yellowstone, he recommends anglers fish below diversion dams and weirs, where walleyes and other coolwater species stack up. "I target current breaks, seams, and eddies or slack water behind boulders and submerged logs adjacent to current," he says. "River fishing really picks up in July and August, right when it's slowing down in the lakes," he says.

One of the state's top early season shore-fishing sites is the Causeway, between Hauser Lake and Lake Helena a few miles northeast of the state capital. Walleyes moving upstream in spring are constricted to a small channel at the popular site.



HOWARD TRIPP/WINDIGOIMAGES.COM

NO KIDDING Though not as easy to catch as panfish and hatchery trout, walleyes are taken from shore at many of Montana's smaller reservoirs.

MIKE BARLOW/WINDIGOIMAGES.COM

Walleye fishing terms

'Eye: Short for walleye.

'Crawler harness: A two- or three-hook rigging, usually with a colorful spinner blade, used to fish night crawlers. Usually tied behind a bottom-bouncer sinker.

Bottom bouncer: A lead weight midway down a stiff, 6-inch-long wire, which bounces along the bottom as you troll it.

Crankbait: A minnow-shaped lure made of plastic or wood with a plastic lip.

Bait rig: A sinker-and-hook combination without a spinner, used to fish minnows, leeches, or night crawlers.

Jig: A hook with a lead weight molded to it. Usually fished with a pastic bait, minnow, leech, or night crawler on the hook and either cast, slowly trolled, or fished straight down over the side of a boat.

Walleye chop: Waves, kicked up by wind, that break up light entering the water, allowing walleyes to move shallower.

Kicker: A second, much smaller outboard on a boat that allows you to troll more slowly than the big motor.

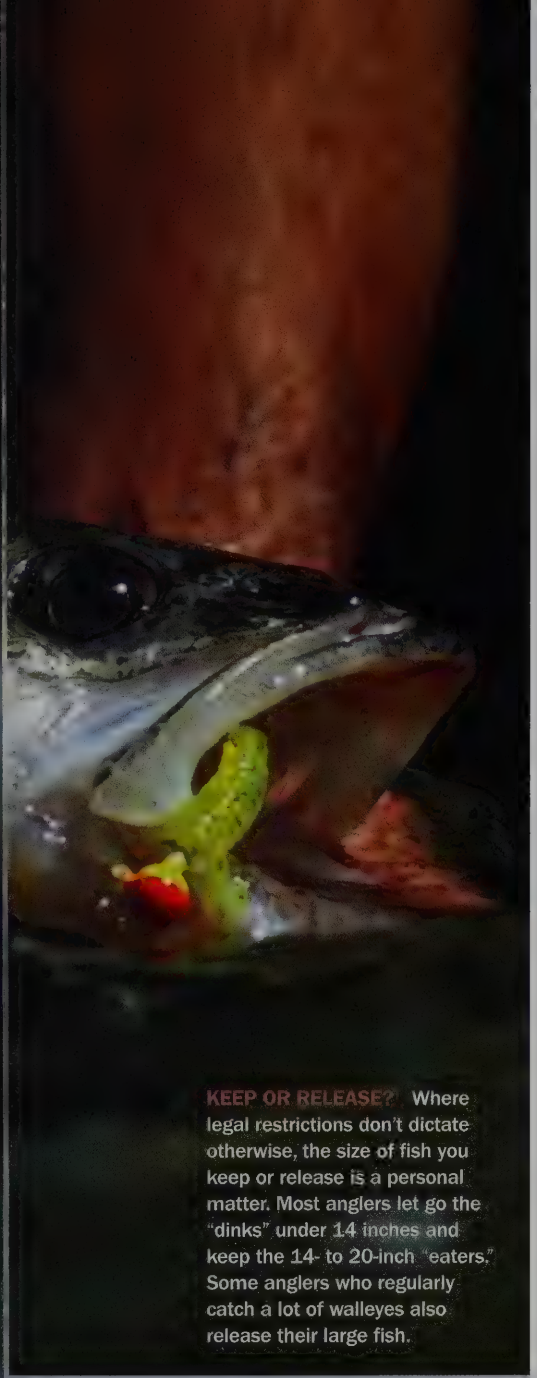
Electric: An electric trolling motor, which may be operated by hand or a foot pedal.

Planer board: A device used to extend the width of your trolling. As the boat moves along, the board takes the lure far out to the side of the boat.

Mud line: A place where waves begin washing mud from the bank. Decayed plant matter in the dirty water attracts bait fish and, as a result, walleyes.

Backtrolling: Trolling with the stern of the boat going first rather than the bow. Used to troll more slowly and precisely.

Tiller: A boat operated with a handle directly on the outboard motor. A "big



KEEP OR RELEASE? Where legal restrictions don't dictate otherwise, the size of fish you keep or release is a personal matter. Most anglers let go the "dinks" under 14 inches and keep the 14- to 20-inch "eaters." Some anglers who regularly catch a lot of walleyes also release their large fish.

tiller" has a large-horsepower motor.

Console: A boat with a steering wheel and windshield.

Sauger: A close walleye cousin that is native to the big rivers of eastern Montana.

Suspended walleyes: Walleyes far up off the bottom, hanging at a particular depth over deeper water.

Dink: A walleye too small to keep (usually less than 14 inches long).

Eaters: Generally speaking, walleyes from 14 to 20 inches, though it varies by angler.

Release fish: Generally speaking, walleyes bigger than eaters that are released.

continued from page 13

walleyes taken over 10 pounds," says Heath Headley, FWP biologist for the reservoir. One reason for the large walleye size is the reservoir's cisco population. These cousins of trout are high in calories—like double bacon cheeseburgers with fins. Another reason is that Fort Peck is so big that anglers there haven't overharvested the medium-sized walleyes—a pervasive problem in midwestern lakes—thus allowing plenty of fish to live a few more years and reach trophy size.

Headley says the best time to catch Fort Peck's large walleyes is late spring and early summer, when they are relatively shallow and feeding aggressively. "As summer progresses, they go deeper to pursue the cisco, which are trying to get away from the warmer water."

Rising lake levels in the past few years have flooded Fort Peck's shoreline vegetation, creating new spawning and rearing habitat for fish—especially perch, another important walleye food. Flooding also released huge amounts of nutrients from the submerged shoreline, fueling the lake's ecological food web. "It's called the 'new reservoir effect,'" says Headley. "All that flooded plant material breaks down and increases plankton production, an essential building block for all fish species.

"We've had very good fishing these last few summers," he adds, "and I predict very good fishing again in 2011."

Another top walleye lake is Canyon Ferry, which can be fantastic starting in late spring and lasting into fall. Canyon Ferry became famous in the early 2000s when the 1997 "year class" (generation of fish) began reaching catchable sizes. "Phenomenal is a good word to describe the fishing then," says Eric Roberts, FWP's Canyon Ferry biologist. Because walleyes were new to the reservoir, the predator species took advantage of abundant forage fish and grew at phenomenal rates. These days, says Roberts, Canyon Ferry's walleyes are growing at more normal rates. "What we're seeing now is the abundant 2007 year class moving through the system," he says. "Last year those walleyes were about 12 to 14 inches, with some getting up to 16 inches by fall. This year anglers will be seeing a lot of those fish at 13 to 16 inches and even up to 18 inches by the end of the season." He adds that spring test netting continues to capture monster females over 14 pounds, "so that tells us there are still plenty of trophies out there."

Or you can just sit back in a lawn chair and let the minnow do all the work.

Because action on Canyon Ferry can go from cold to hot in minutes, anglers pay close attention to other boats to see who is catching fish. "It's the only place in Montana with what I call 'pack' fishing," Roberts says. "On the south end of the lake, when fish are biting, boats are practically bumper to bumper."

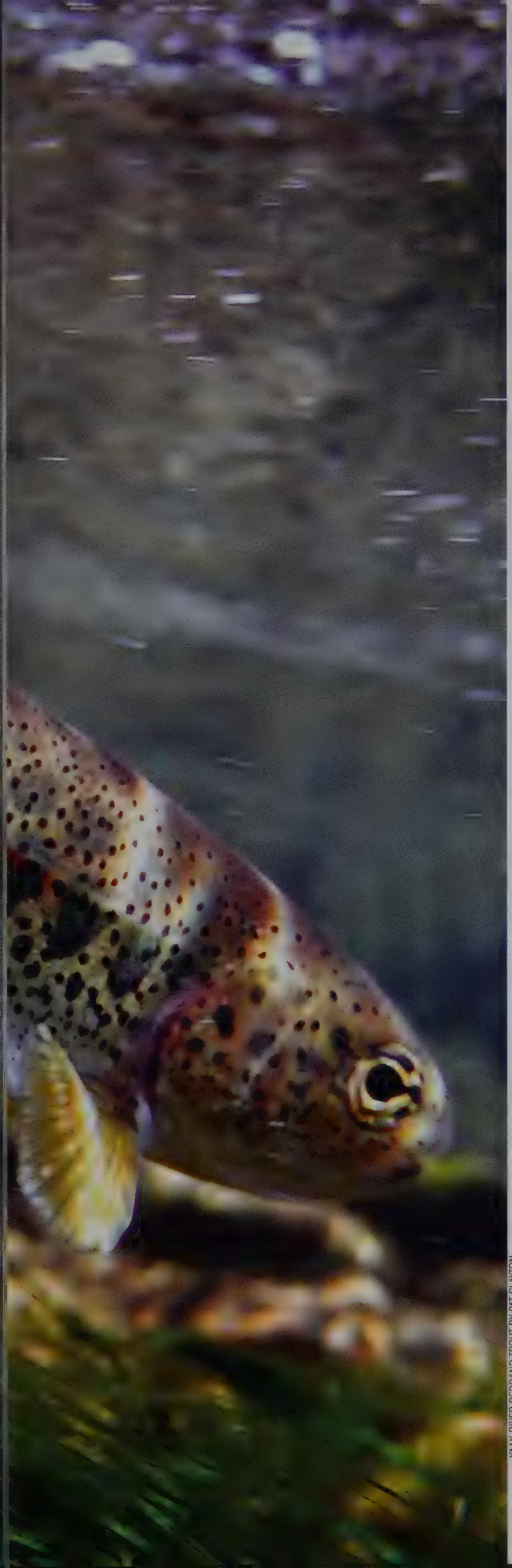
Such crowding is unheard of at other Montana walleye waters. On massive Fort Peck, you can sometimes fish for hours and not see another soul. And on walleye waters near the Rocky Mountain Front, such as Tiber Reservoir and Lake Frances, fishing pressure can be so light during the week or in spring and fall that an angler can get downright lonely.

That's one of the great things about walleye fishing in Montana: There's a type of fishing for every taste. You can fish on your lonesome or seek out company. You can jig or you can troll. You can fish reservoirs or rivers.

You can also spend a fortune on the sport. Or you can do like state walleye champion Bob Hart did and just sit back in a lawn chair and let the minnow do all the work.

For more information, visit the Walleyes Forever or Montana Walleyes Unlimited websites at walleyesforever.com and montanawalleyes unlimited.net. Sporting goods stores in Glasgow, Havre, Great Falls, Helena, Bozeman, and Billings have knowledgeable staff who can provide walleye fishing advice and help you find appropriate fishing gear.

THE NATIVE Redband trout look similar to other rainbows in Montana except for their faint cutthroat-like slashes, more distinctive parr marks (dark vertical ovals along the sides), and light-colored fin tips. Biologists describe redbands as having a more "green-yellow-orange" appearance, while Montana's other rainbows appear more "blue-purple."



YAAK RIVER REDBAND TROUT BY PAT CLAYTON

Montana's Redband Trout

Rainbow trout are common throughout much of Montana, but almost all are nonnatives. They are descendents of coastal rainbow trout originally brought here from California hatcheries starting as far back as the 1880s. The only rainbow trout native to Montana is the Columbia River interior redband trout, a subspecies commonly known as redband trout, found here only in the northwestern corner of the state.

For years coastal rainbows were stocked in Montana streams containing native redbands. As a result, the two rainbow subspecies hybridized, making genetically pure redbands increasingly rare. According to Mike Hensler, Montana Fish, Wildlife & Parks fisheries biologist in Libby, genetically pure redbands today exist primarily in widely disconnected remnant stocks. These redbands are confined to the upper reaches of streams where drainage culverts, small waterfalls, or other barriers prevent hatchery rainbows from moving upstream.

Redbands historically have coexisted with native westslope cutthroat trout. Though the two species sometimes hybridize, the crosses are considered naturally occurring. "Because they happen at such a low rate—less than 1 percent—they don't threaten the existence of redband trout, unlike hybridization with hatchery rainbows," Hensler says.

Montana's redbands are native to the Kootenai River and its tributaries up to the Fisher River, a few miles downstream of Libby Dam.

The steelhead that move from the Pacific Ocean up the Columbia River into the Snake River basin in Idaho and British Columbia's Fraser River are a variation of the redband trout.

Each spring a large, lake-dwelling strain of the redband trout known as the Gerard rainbow swims upstream (north) from Kootenay Lake in British Columbia to the Lardeau River to spawn. Hensler suspects that thousands of years ago some Gerards also migrated south through the Idaho Panhandle into Montana to spawn in the Kootenai River and its tributaries. Over time, some of these fish remained and formed the resident redband trout populations here.

—Tom Dickson

For more information on redband trout, visit:

- westernnativetrout.org/content/redband-trout/
- fisheries.org/units/AFSmontana/SSCpages/redban%20status2.htm
- dnrc.mt.gov/hcp/Documents/SpeciesAccts/RedbandtroutSpeciesAcctSept05sm.pdf

BEAR-FREE, WORRY-FREE CAMPING

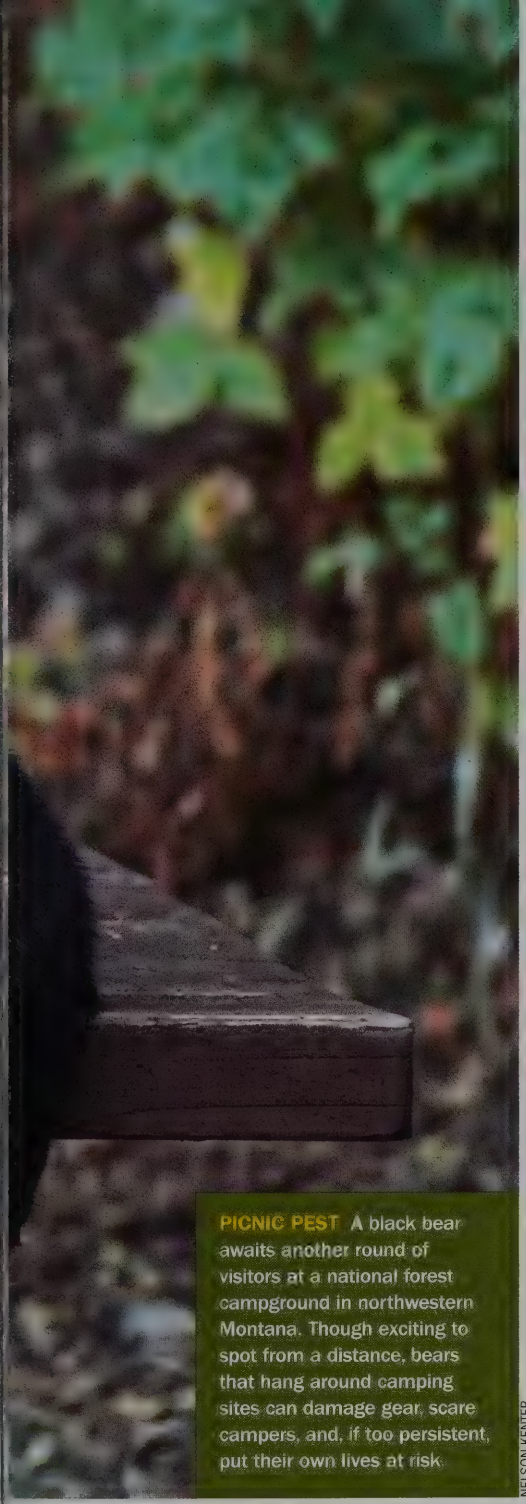
Easy ways to ensure that black bears and grizzlies stay away from your family's campsite this summer. BY MIKE RAETHER

Last summer while camping near St. Regis, Rob Holmes was bitten in the head by a black bear. Holmes, of Washington, was on his first Montana fly-fishing trip. One night he felt a bump against his tent. It was a bear, which bit into the tent and latched onto Holmes's head, almost severing one ear. The camper shouted and scared the animal off, then drove to a nearby hospital, where emergency room staff were able to sew his ear back into place.

Attacks by bears are rare. But visits by curious or hungry bears to campsites are common, often ruining vacations and scaring campers. In Holmes's case, nearby campers had been careless. They'd left out food, which attracted the bear that bit into Holmes's tent out of curiosity.

"Bears can be anywhere in western, central, and southern Montana," says Erik Wenum, Montana Fish, Wildlife & Parks bear management specialist, who explains that the state's black and grizzly bear populations continue to grow and expand. "We have bears showing up where they haven't lived in 30 years. Even if people don't see them, they're there, because bears are experts at not being seen."

That can be unsettling news. Campers want to slide into their sleeping bag and not worry that a bear might come prowling around later that night. Fortunately, by following a few simple precautions offered by Wenum and other wildlife experts, you can keep the animals away from your campsite and enjoy many nights of restful sleep.



PICNIC PEST A black bear awaits another round of visitors at a national forest campground in northwestern Montana. Though exciting to spot from a distance, bears that hang around camping sites can damage gear, scare campers, and, if too persistent, put their own lives at risk.

NELSON KENTER

Food storage

The first consideration for carefree, bear-free camping is proper food storage. You must ensure that bears cannot obtain a single scrap of food or garbage. This prevents the animals from tearing up your campsite and devouring your food. Also, when practiced by all campers, proper food storage deters bears from lingering.

The most important rule is to never store food—even snacks and personal hygiene items such as toothpaste—in a tent. "You also want to pick up all food scraps from the campsite every night before bed and double check that nobody accidentally left food, cans, or foil in the fire pit," says Chuck Bartlebaugh, director of the Missoula-based Center For Wildlife Information. "Store all food and garbage in proper containers overnight and whenever you leave your campsite."

Tent and RV campers should keep all edibles in ice chests or storage containers that are placed in vehicles when not in use. The second-best option is to hang foodstuffs from a rope between two trees. Some national forest campgrounds with chronic bear activity offer bear poles (also known as "bear hangs") for hanging foodstuffs; others provide metal storage boxes designed to thwart wildlife.

Backpackers have to be more creative. Because some bears can climb trees, food hung at backcountry campsites must be at least 4 feet away from the trunk or heavy branches and at least 10 feet from the ground. That may require stretching a rope between two trees at least 15 feet apart (and at least 100 yards from the sleeping area). To get the horizontal hang rope high enough off the ground, tie one end of the rope to a rock, fling it up onto a branch of one tree, then do the same with the other end of the rope on the other tree.

In recent years manufacturers have devised lightweight food storage canisters, often called "bear tubes," made of tough, bear-resistant plastic, which are carried in a backpack. Manufacturers and products include Garcia Machine's Backpackers' Cache, BearVault, and Counter Assault's Bear Keg. The tubes weigh 2 to 3 pounds and are designed to hold enough food for one person for about six days. "Shop around and make sure the tube you buy is certified by the Interagency Grizzly Bear Committee," Wenum advises. "And don't buy one larger than what you will need. Take your pack with you and buy one that will fit in your pack." Wenum also suggests calling local Forest Service offices; some loan out bear tubes, as do a few camping supply stores. "That's a good way to 'test drive' a tube," he says.

Like food hung from bear hangs, bear tubes should be stored at least 100 yards from sleeping sites.

A new device deters bears from nearing your food, garbage, or tent in the backcountry. The Pentagon Electric Bear Fence is a portable, battery-powered electric fence enclosure that can be pitched around your tent or food cache. (Even with this added protection, you still need to properly store your food and separate it from your sleeping area.) Weighing 9 pounds and costing about $370, the fence is neither light nor cheap, but it carries enough zap to discourage a hungry or inquisitive bear from visiting your food supply or sleeping area.

> **"Pick up all food scraps from the campsite every night before bed."**

Cooking and cleaning

The tantalizing smell of sizzling bacon or fried trout might warm a camper's heart, but it is more than a hungry bear can resist. A bear's sense of smell is many times more acute than a human's. Even something as seemingly safe as breakfast sausage can

Bear tubes, made of tough plastic, can keep food safe from hungry animals.

COUNTER ASSAULT

attract bears from far away. Try to avoid cooking foods that emit strong smells. If possible, cook in an area at least 100 yards away from where you sleep. If available, use a campground's common cooking shelter for preparing, cooking, and eating meals rather than doing so at your campsite. Also, don't cook or eat in the same clothing you wear around the campsite or bring into your tent. Tent and RV campers should place cooking clothes in their vehicle, while backpackers should stash those items with their food away from the campsite.

After a hearty campsite meal, it's tempting to postpone cleanup. But that's just leaving a welcome mat out for bears, which love leftovers and garbage. Developed campsites usually provide garbage disposal facilities. Tent and RV campers visiting undeveloped campsites should use plastic garbage bags and store them out of sight in their vehicle. Backpackers can place garbage and leftovers in special, odor-proof plastic bags (available at outdoor supply stores) and store them with their food.

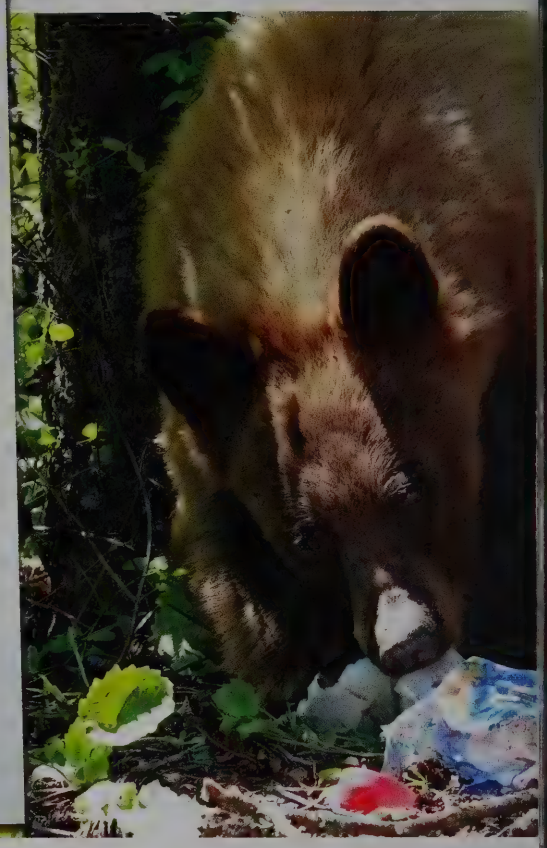
During cleanup, don't dump leftovers in the fire pit or fling food-laden washing water into nearby bushes. Once the fire goes out and the dishwater dries, enough food will remain to attract bears.

Mike Raether is a writer in St. Regis.

NOT To Do List

Nine Sure Ways To Attract a Bear To Your Campsite

1. Store food in your tent.
2. Leave the garbage bag out overnight.
3. Dump leftover food in the fire and dump dirty dishwater into nearby bushes.
4. Cook smelly food like bacon and fish and leave the pans out.
5. Bring into your tent the same clothes you cooked and ate in.
6. Keep a candy bar or other snack in your sleeping bag.
7. Leave ice chests and food containers out when you are away from camp for bears to investigate.
8. Camp next to careless campers to take advantage of their sloppiness.
9. Leave the cooking cleanup for tomorrow. Bears love leftovers.



What if?

In July 2010 three people were attacked, one fatally, by a grizzly one night at Soda Springs Campground near the northeastern corner of Yellowstone National Park. The incident occurred even though the campers and others nearby had kept their campsites clean and free of food, garbage, and odors.

Bear attacks are uncommon, and fatalities are extremely rare. But even campers who take all precautions with food may someday come face to face with a bear. That's why it's worth knowing how to protect yourself, just in case.

Some campers believe firearms are the safest deterrent. But firearms can be fatal to people as well as bears, says Wenum. "Think of yourself on the trail with a half dozen other hikers," he says. "You round a corner and surprise a bear. People start running in all directions, and someone pulls out a handgun and starts blasting away. That's a recipe for disaster."

Also, a firearm can unnecessarily kill a bear that is only bluff charging. And if the charge is for real, even expert marksmen can miss a killing shot on a charging bear. That risks wounding the animal and making it angrier.

Wenum and Bartlebaugh say a far more effective option is bear spray, a canister filled with deterrent made from capsaicin and related capsaicinoids. During the day, the canister should be carried in a holster on the waist or across the chest. During sleeping hours, keep bear spray and a flashlight next to your pillow for nighttime bathroom walks and unexpected bear visits.

KENTON ROWE

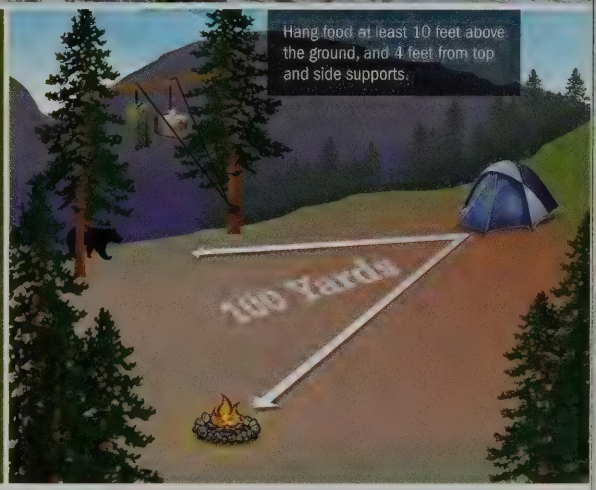
UNFAIR TO BEARS

A food-laden campsite can be a bear's death sentence. After trying scare tactics and multiple relocations, FWP wardens and biologists have to kill 10 to 12 bears each year when the animals, attracted by food, repeatedly raid campsites and put human safety at risk.

"A bear that is fed by humans—either intentionally or otherwise—will almost always end up dead because it starts hanging around campsites and has to be removed," says Bartlebaugh. "That's certainly not fair to the bear."

CLOCKWISE FROM TOP LEFT: RON HOFF; SAM & STEPH ZIERKE; *MONTANA OUTDOORS*; STEVEN AKRE

HELPING BEARS STAY AWAY Aided by their keen sense of smell, bears are naturally drawn to food and garbage left out at campsites (facing page). Even small scraps and personal products like toothpaste can attract the large omnivores. To deter bears, campers should hoist food from hang poles found at many national forest campgrounds and national park backcountry campsites (left). Backpackers should pitch their tent at least 100 yards from hung food and cooking areas (right). Though not intended to replace proper food storage, portable electric fencing (above) is a new option for backcountry camping that provides extra safety.



Bear spray works by discharging the canister contents toward an aggressive bear, forming an expanding cloud of protection between the user and the animal. Just the sight of the spray or the sound of its *woosh* has been enough to deter some charging bears. Bears that continue charging encounter the cloud of spray, which causes the animal to succumb to a temporary though violent attack of coughing, sneezing, and short-term sensory loss. Says Wenum: "I've used it. It's safe, it works, and it's relatively cheap."

Even so, few campers would ever want to be put in a position of having to use bear spray. That's why keeping a clean campsite free of odors and accessible food is the best way for campers to ensure that bears remain wild and stay safely away from people.

FOR MORE INFORMATION

Advice on buying and using bear pepper spray: fwp.mt.gov/mtoutdoors/HTML/articles/2009/grizzlyencounters.htm

What to do if you see a bear, if it nears, and if it attacks: fwp.mt.gov/mtoutdoors/HTML/extra/BearAttack.htm

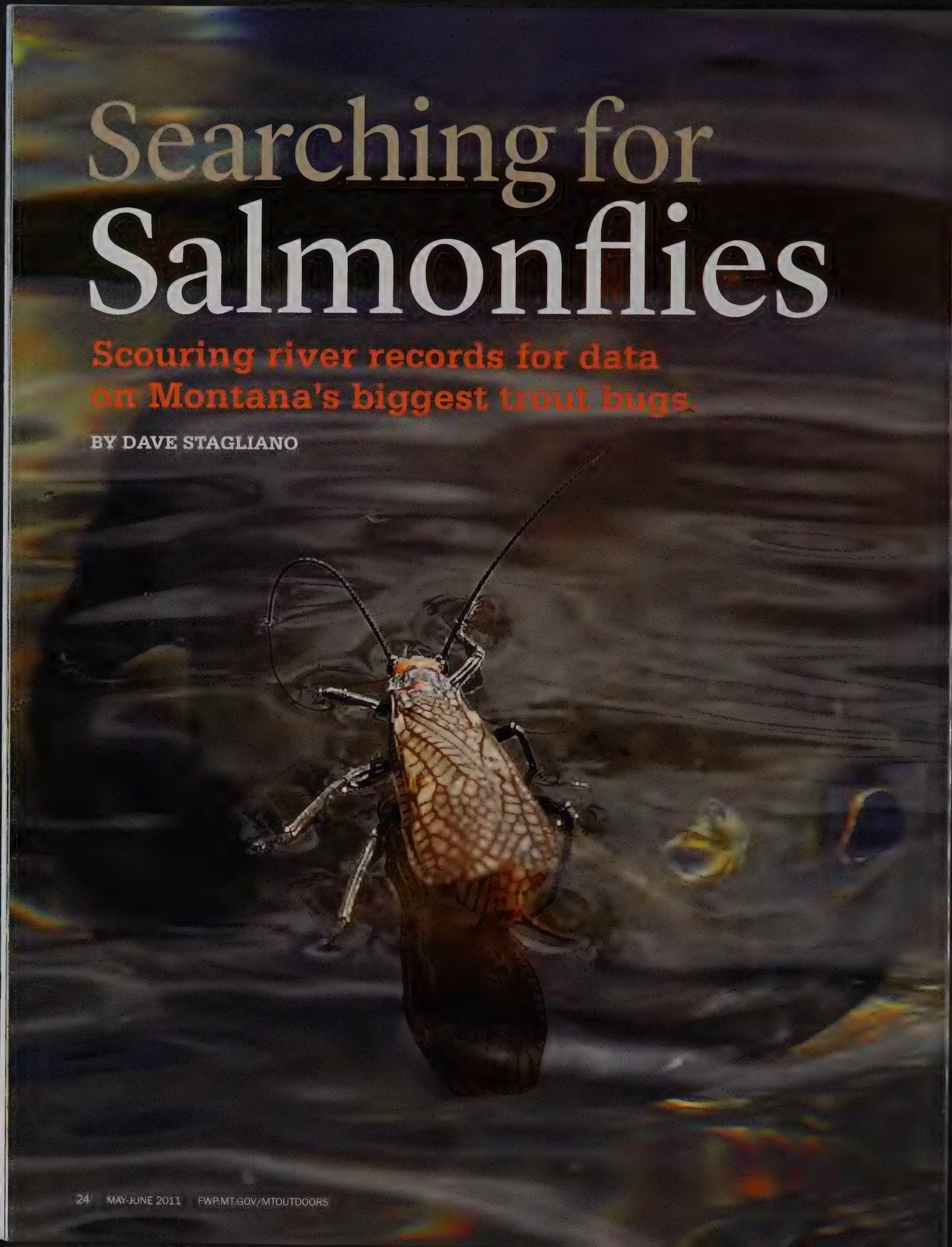
Being bear aware: fwp.mt.gov/wildthings/livingWithWildlife/beBearAware/

Recent bear activity: The websites of U.S. Forest Service ranger districts often contain advisories on recent bear activity at national forest campgrounds.

Searching for Salmonflies

Scouring river records for data on Montana's biggest trout bugs.

BY DAVE STAGLIANO



FLOATING MEAL Big trout lose their wariness in early summer when beefy salmonflies emerge from rocky river bottoms. Anglers respond by casting equally large imitations (right). In recent years, some anglers and guides have wondered if salmonfly populations are declining.

ROBERT WESELMANN

Every year in late spring, like kids anticipating the last day of school, trout anglers in western Montana await the annual salmonfly hatch. These 3-inch-long members of the stonefly family are so big and protein-packed that even hyperwary large trout lose all inhibition and rush to the surface in midday to attack floating deer hair or foam imitations. For anglers used to trout snubbing their dry flies, it can be fly-fishing nirvana.

Hitting the salmonfly hatch at the right time is part experience and part luck. Arrive too early and the fish are still focused on the insect's underwater nymphal stage. Get there too late and trout have stuffed themselves on the "floating steaks," as salmonfly adults are sometimes called, and have no interest in your artificial offering. What's more, because the hatch often comes during peak runoff, rivers can be high and murky, making it hard to fish even if salmonflies are on the water.

Because the hatch is so popular, Fish, Wildlife & Parks officials were concerned by recent reports from some anglers and guides that salmonfly numbers appeared to be declining. "Especially on the Madison, Big Hole, and Yellowstone, the salmonfly hatch is a big deal," says Travis Horton, FWP regional fisheries manager in Bozeman. "If they are in decline, we want to know, and to understand why. Like fish, salmonflies are a good indicator of aquatic health."

In 2010 the department hired me to review existing information on salmonflies in Montana. As a longtime trout angler and aquatic ecologist, I knew that salmonfly numbers naturally fluctuate from year to year, based on a wide range of factors often related to water flow. During years of low flow, salmonflies have less habitat because more river bottom along shorelines is exposed to air. Also, water temperatures increase when flows are low, stressing salmonflies. And without flushing flows, silt clogs underwater cobbles where salmonflies live. But I also knew that aquatic insect populations can decline from human-caused factors, such as dissolved heavy metals or severe dewatering that dries up some river stretches.

MINING THE DATA

Montana contains three salmonfly species:

JEREMIE HOLLMAN

the most commonly encountered giant salmonfly (*Pteronarcys californica*), the lesser-known American salmonfly (*Pteronarcys dorsata*), and their smaller cousin the least salmonfly (*Pteronarcella badia*). (The least salmonfly coexists with the other two species in some rivers. It can also survive in warmer water where trout are not found, so the species is less important to trout anglers.) The salmonfly's common name refers to its orange (salmon flesh-colored) abdomen, leg joints, and several thorax joints.

Salmonflies generally live in large, well-oxygenated rivers containing swift, bouldery or riffly stretches and narrow canyon reaches, such as in the Big Hole, Madison, Gallatin, Yellowstone, Clark Fork, and Smith Rivers. Classic salmonfly waters include Yankee Jim Canyon of the Yellowstone, Alberton Gorge of the Clark Fork, and Big Hole River Canyon between Glen and Wise River. Flat, low-gradient tailwater fisheries such as the Missouri below Holter Dam and the Bighorn below Yellowtail Dam lack the bouldery rapids and river bottom cobbles where salmonfly nymphs live, as well as the large leafy material that the aquatic insects eat.

My search required compiling available sampling data on aquatic macroinvertebrate (underwater insect) populations throughout western Montana. Most monitoring data had been collected by the state Department of Environmental Quality (DEQ). Other data collection and studies had been done by me (through the Montana Natural Heritage Program), FWP biologists, Montana State University, the University of Montana, and the hydropower dam owner and operator PPL-Montana (formerly Montana Power). Much of this information was already in the Montana Natural Heritage Program database, but in many cases I had to dig through old technical reports and masters' theses to find it.

My next step was to isolate the most valuable data. Ideally, scientists monitor salmonflies year after year, at the same sampling sites. They can then devise an index showing whether the population trend is decreasing, increasing, or staying the same. Unfortunately, I discovered that little long-term monitoring had been done even on Montana's top salmonfly rivers. Data sets on some river stretches covered only a single year. Others spanned decades but contained huge gaps. The best continuous data set came from the Clark Fork River, where Smurfit-Stone Container Company conducted yearly monitoring at many sampling sites dating back to the mid-1950s.

While I scoured the data for relevant information, I also conducted a survey of 35 anglers, guides, and fisheries biologists who had expertise on Montana's main salmonfly waters. I wanted to learn what respondents were noticing and how their responses correlated with existing scientific data. Though this anecdotal evidence lacked scientific validity—for instance, it relied heavily on respondents' memories of salmonfly hatches from years or even decades ago—it provided some sense of public opinion regarding

Dave Stagliano is an aquatic ecologist with the Montana Natural Heritage Program.

ANGIE KIMMEL

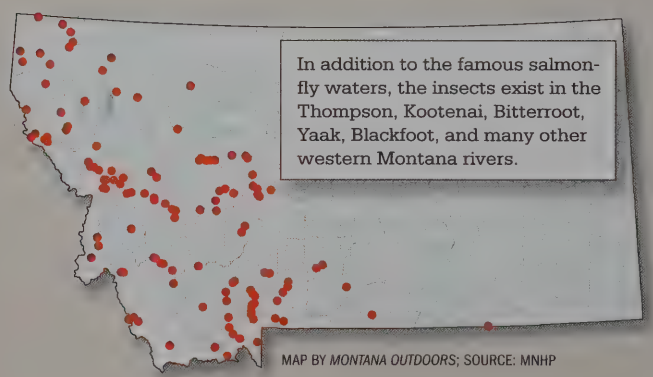
When early summer runoff is strong and rivers run high, heavy flows wash silt from bottom cobbles where salmonflies live. High water also inundates shorelines, creating additional rocky habitat for salmonfly nymphs, and it keeps water from becoming too warm.

USGS

COUNTING INSECTS U.S. Geological Survey biologists use a net to capture salmonflies and other aquatic insects. Standardized sampling procedures like this ensure that monitoring data is reliable. When conducted over many consecutive years, such monitoring can allow scientists to determine population trends.

Salmonfly occurrence in Montana

Rivers where nymphs have been collected at least once over the past few decades as part of scientific sampling.


In addition to the famous salmonfly waters, the insects exist in the Thompson, Kootenai, Bitterroot, Yaak, Blackfoot, and many other western Montana rivers.

MAP BY *MONTANA OUTDOORS*; SOURCE: MNHP

WILL JORDAN

When water levels drop because of drought and dewatering, salmonfly populations are in trouble. Rocky habitat is exposed to air, water temperatures get dangerously high, and silt builds up in bottom substrate.

salmonfly hatch occurrence.

The main questions I asked: Do you think salmonfly numbers on the Montana rivers you fish have decreased, increased, or stayed the same? What other changes in insect or fish populations have you noticed on these rivers since you first began fishing there? What factors do you think most contribute to these changes?

FINDINGS

Overall: The anglers, guides, and fisheries biologists surveyed had spent an average of 21 years fishing Montana's rivers; these were definitely people with experience. Overall, 45 percent believed salmonfly numbers had remained the same on their rivers over the years, while 17 percent thought numbers had decreased. The remaining 38 percent said they didn't have enough information to form an opinion. No one thought salmonfly numbers had increased, except on the Big Hole in 2010. Respondents were split about 50:50 as to whether "epic" salmonfly hatches existed on the Yellowstone, Big Hole, and Madison 15 to 20 years ago.

All surveyed guides and fisheries biologists (and 50 percent of anglers) said they had noticed an increase in bottom sediment on their salmonfly rivers. They attributed this to the drought of the 2000s, during which spring runoff wasn't heavy enough to flush silt from river bottoms. Half the anglers and 20 percent of the guides and biologists said they'd also seen changes in fish and insect species composition. In some waters, they had seen more brown trout and an increase in hatches of small mayflies, such as *Baetis* and *Tricos*, and caddis flies, while noticing fewer cutthroat trout and a decline in salmonfly and larger mayfly hatches. They attributed this also to the drought, which raised water temperatures and increased siltation, both of which can be tolerated more by browns and smaller mayfly species.

Big Hole: The salmonfly hatch on the Big Hole is the state's most well known and the one most closely watched by anglers and guides. Traditionally the hatch moves upstream from the river's confluence with the Beaverhead starting in mid-June and then carries on roughly 4 to 5 miles per day to Wisdom. The highest densities are in the canyon reach from Glen to Wise River.

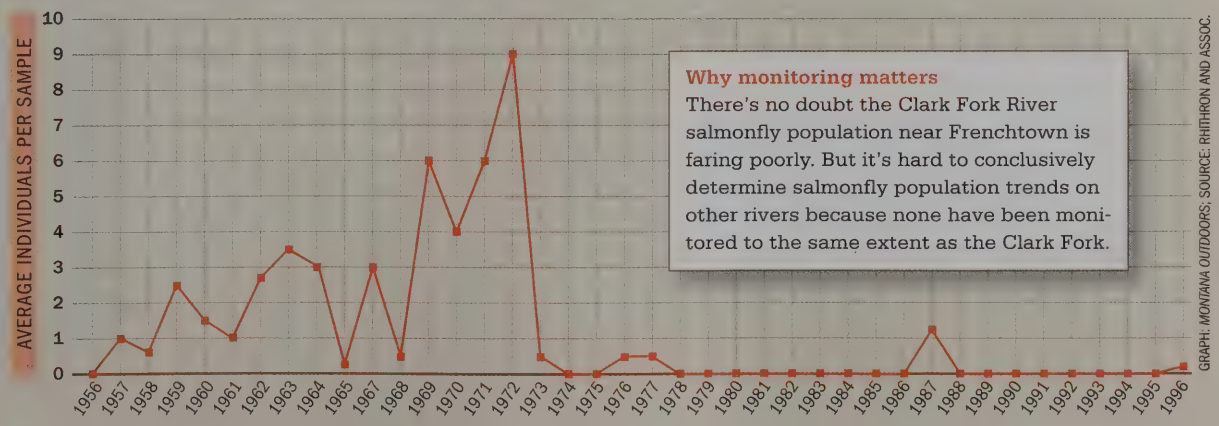
Anglers and guides reported smaller hatches during the drought years of the early 2000s than they'd seen in previous years. Also, one survey respondent who has been keeping a close eye on the Big Hole for many years had seen a decline in the salmonfly hatch "in sections where sediment deposition has occurred and [spaces between gravel] are now filled, Melrose to Brown's Bridge in particular." He added that the hatch seems fairly stable from year to year "in river sections where habitat is ideal and stable, with the canyon section being the best."

However, the lack of monitoring data made it impossible to conclude whether overall salmonfly numbers throughout the Big Hole were declining.

Also worth noting is that anglers and guides reported the 2010 salmonfly hatch as one of the strongest and longest in years. Those flies came from eggs laid in 2007. Though conditions for reproduction were

Salmonfly densities on the Clark Fork River near Frenchtown, 1956–1996

The most complete salmonfly monitoring data in Montana was conducted on the Clark Fork River. As seen here, salmonfly numbers a few miles downstream from Missoula steadily rose in the 1960s and early '70s, then plummeted—for reasons unknown.



GRAPH: *MONTANA OUTDOORS*; SOURCE: RHITHRON AND ASSOC.

Why monitoring matters

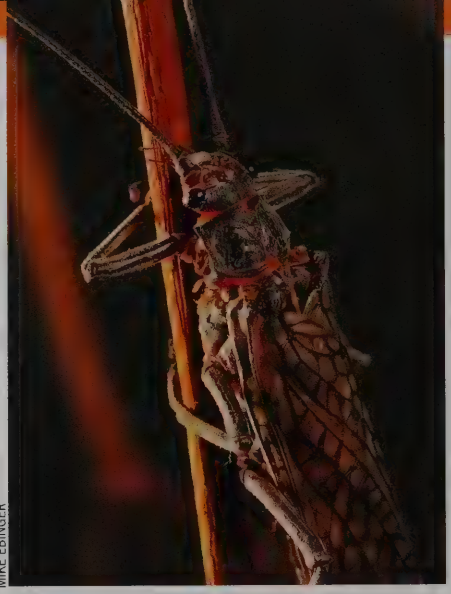
There's no doubt the Clark Fork River salmonfly population near Frenchtown is faring poorly. But it's hard to conclusively determine salmonfly population trends on other rivers because none have been monitored to the same extent as the Clark Fork.

not especially strong during that drought year, high flows in 2008 and 2009 likely improved survival of the larval stage of the 2007 "cohort" (or generation of salmonflies), resulting in high numbers of adults in 2010.

Clark Fork: The Clark Fork had the longest uninterrupted set of monitoring data, which yielded some surprising results. Throughout the first half of the 20th century, this river was nearly devoid of all aquatic life because of heavy metals leaching from old tailing piles upstream in the Butte and Anaconda mining area. Starting in the mid-1950s, salmonfly numbers downstream from the confluence of Rock Creek began to increase and build (see graph page 27). Then, in the mid-1970s, the population crashed and has remained low or nonexistent since. No one knows why. If not for the decades of data, we wouldn't be able to see that salmonfly numbers were once rebounding. Instead, we'd assume the Clark Fork had been devoid of the insects for more than a century.

It appears the drought from 2000 to 2007 hurt salmonfly production on some river stretches.

One exception to the disappearance of salmonflies on the Clark Fork is in Alberton Gorge, where the population remains strong, based on DEQ monitoring data.



MIKE EBINGER

BIGGEST OF THE BUNCH Montana is home to three salmonfly species. Shown here is the largest and most commonly encountered, the giant salmonfly *(Pteronarcys californica)*.

Madison: The Madison's salmonfly hatch is popular and attracts anglers from throughout the United States. Salmonflies begin emerging around July 1 in the channels just above Ennis, and the hatch moves upstream several miles per day over the next three weeks.

Several anglers, guides, and biologists said the river below Beartrap Canyon also used to have a decent salmonfly hatch but that salmonflies there are now almost nonexistent. Information from PPL-Montana monitoring supports these observations. One reason may be increased silt and riverbed vegetation. Anglers and guides said that until recently they hadn't seen much silt or vegetation below Norris, and PPL-Montana's scientific studies of the lower river in 1978 and 1991 make no mention of silt or vegetation.

PPL-Montana data on salmonfly populations upstream from Ennis don't fluctuate outside normal variability. In other words, there are good years and bad years based on natural factors (such as an early summer snowstorm that can whack a year's hatch before it has a chance to mate). A PPL-Montana consultant told me the salmonfly population between Ennis and Hebgen Lake appears healthier in recent years because of high river flows.

Yellowstone: As in so many other waters, not enough continuous aquatic insect monitoring has been done on the river section from Yellowstone National Park to Livingston to conclude whether salmonfly populations are fluctuating more than would occur naturally.

But sampling data farther downstream show that salmonflies occupy roughly 30 miles less of the Yellowstone below Livingston than they did in the 1970s. It appears that the transitional area between the Yellowstone's coldwater and coolwater fisheries has been progressively proceeding upstream toward Big Timber, and salmonfly occurrence reflects this movement. That's likely because during the drought years the river was warmer and lacked flows to flush sediment.

"Cohort strength" helps predict adult salmonfly numbers

Each generation of newly hatched salmonfly nymphs is known as that year's "cohort," similar to a year class of fish. A strong salmonfly cohort is a generation with higher than average numbers, while a weak cohort has numbers lower than average. Cohort strength is determined by the conditions of the river when the adults lay their eggs and during the time it takes nymphs to mature into adults. Generally years with high river flows produce strong salmonfly cohorts, while years of low water produce weak cohorts. High water creates more habitat along submerged shorelines and keeps temperatures from getting too warm for the insects. Also, heavy flows clean silt out of river bottom rubble. Silt can fill spaces between cobbles where nymphs live and also smother leafy material the insects eat.

Because it takes an average of three years for a salmonfly to mature and reach its flying adult stage, the 2011 cohort—nymphs from eggs laid by adults this year—will not show up as adults any time soon. They will remain in their nymph stage until finally emerging—with luck on the same day you choose to fish the Big Hole, Madison, or Yellowstone—in early summer 2014.

JOSHUA BERGAN

WIGGLE ROOM Salmonflies exist in a nymphal stage for three years before crawling up onto shore and emerging from their husks as adults.

Smith: This is another famous trout river with a traditionally strong salmonfly hatch, which now may be in decline. Anglers and guides report decreased hatches over the past decade. Since 1991, a former fishing guide has been quantitatively sampling salmonfly larvae populations roughly 10 miles upstream from Camp Baker (the put-in for the popular multi-day float). He has found that numbers have declined at this site since they peaked in 1993 and have been almost nonexistent since 1997. My anecdotal observations of the river's increased silt and water temperatures support his findings. Though no long-term data exist for the popular fishing and floating water downstream from Camp Baker, this stretch is at times severely dewatered. FWP biologists have measured late summer water temperatures there as high as 80 degrees, which can be deadly to salmonflies.

CONCLUSION

Based on the combination of survey results and data records, it appears the drought from 2000 to 2007 hurt salmonfly production on some river stretches. The drought created below-average spring snowpack, which in turn resulted in low flows, a buildup of river bottom silt, and warmer water temperatures—all tough on salmonflies.

Will Montana's climate hamper salmonfly production in the future? No one knows. Big Hole anglers say last year's salmonfly hatch was the best they can remember, and April 2011 snowpack was above average, which bodes well for this summer's flushing flows as well as salmonfly populations a few years from now (see cohort strength sidebar, page 28). Yet Montana climate experts say the state's average annual temperature has increased 2 degrees over the past 50 years and predict average temperatures will climb another 3 degrees by 2050. If they are right, both trout and trout anglers might have to learn to live with fewer of the big bugs.

Perhaps the most important conclusion I drew from the study is that Montana sorely lacks data on salmonflies. With the exception of the Clark Fork, no river has enough long-term monitoring information to make scientific determinations about population trends. Salmonfly populations may be declining in some rivers and river stretches. Or, as on the Clark Fork during the 1960s and early '70s, they may be increasing. But without regular, scientific monitoring of aquatic invertebrate populations, there's no way to know for certain.

Read the entire Montana salmonfly report at http://mtnhp.org/reports/MT_Salmonfly.pdf.

FISHING THE SALMONFLY HATCH

Hitting Montana's salmonfly hatch can be fly-fishing heaven. Trout race to smack thumb-sized dry flies with names like Sofa Pillow, MacSalmon, and Stimulator. These fish are often the big trout that ordinarily lurk in deep slots and pools feeding on minnows and crayfish, never bothering to look at the size 14 Parachute Adams you usually try. But being on a salmonfly river and catching trout on salmonfly imitations are two separate things. Some tips:

When to fish: The hatch runs from mid-May to early July, depending on the river and stretch. Generally it starts downstream and moves up several miles each day, based on day length and water temperature. Brian McGeehan, owner of Montana Angler Fly Fishing in Bozeman, has his best luck a week or so after the hatch peaks. "I prefer to fish at least four days behind the hatch to give trout time to get hungry again," he says. "They seem to remember the salmonfly for about ten days after the hatch and are still looking for big bugs."

Where to fish: Cast near shore, where adult salmonflies fall from bushes, tree branches, and other streamside vegetation. Target water a few yards downstream or downwind of overhanging branches.

Times to fish: Theories abound. Some anglers fish at dawn, when adult salmonflies are lethargic from the early morning cold and clumsily fall off their vegetation perches. Others wait until the sun hits the insects, warms them up, and gets them moving. Still others delay fishing until late afternoon when rising winds knock more salmonflies into the water. And some wait until sundown, knowing that brown trout are more aggressive after dark.

What to fish: In the days before the hatch, crawl a size 4 black or brown stonefly nymph across the bottom. During the hatch, try whatever adult imitations fly shops are touting. Tippets should be short and heavy—3X or 2X—because the trout aren't skittish and you'll need to yank a few flies from errant casts into shrubbery.

What to expect: You could have your best or most frustrating day of fishing ever. Even when the big bugs abound, the fish may be stuffed on the real thing and ignore your artificial offering. "Trout get full on salmonflies in a hurry," says McGeehan. "That's why I recommend either getting ahead of the hatch and fishing nymphs or getting far below and waiting until their hunger has returned."

—Tom Dickson

RYAN BRENNECKE

Check Out This Rod

FWP sets up loaner stations for kids who want to fish but don't have the gear. BY RON SELDEN

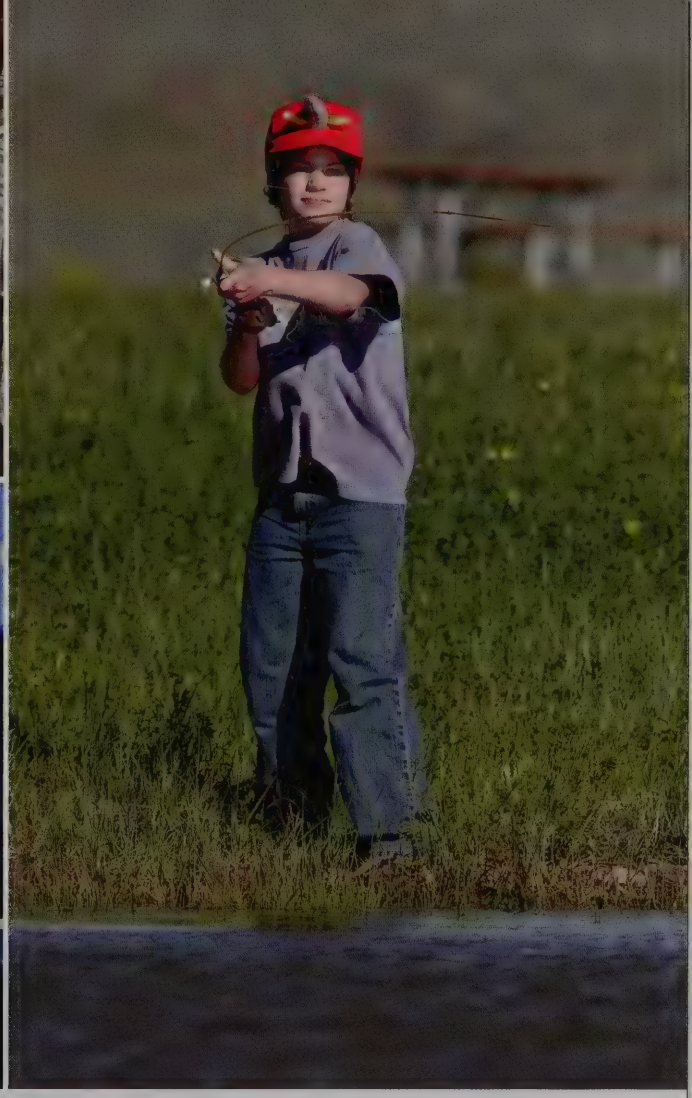
Kids love to fish. But many kids, especially those from low-income families, don't have access to rods, reels, and tackle. A popular Montana Fish, Wildlife & Parks program based in Glasgow is helping change that in north-central and northeastern Montana.

The Kids to Fish Program loans rod-and-reel combinations to young anglers at no charge. Some lending also goes on in other parts of the state, but FWP's program in northeastern Montana is the most extensive and has greatly expanded in recent years. Begun in 2007, the program now offers 45 loaner sites across the Hi-Line and elsewhere in the region. Kids can check out basic fishing rods, reels, and tackle that manufacturers and retailers provide to FWP at a discount. In all, more than 400 rod-and-reel combinations are available.

"Just because someone doesn't own a fishing rod doesn't mean they shouldn't be able to go fishing," says Josh VanWoert, who, as an FWP intern, helped run the program while attending the University of Montana-Western. "We want as many kids as possible to be able to get out and fish, no matter where they live."

The fishing gear can be checked out for free at county libraries, convenience stores, gas stations, campgrounds, sporting goods outlets, cafes, marinas, and supermarkets, and at tribal offices on the Fort Peck, Fort Belknap, and Rocky Boy's Reservations.

A juvenile detention center uses the rods as part of its youth activity program. And some adults borrow the fishing gear for family reunions, church and school outings, and other events. "We get a lot of families, many



EVERYTHING BUT THE BAIT FWP has set up fishing rod loaner stations at department offices (facing page), libraries, gas stations, and campgrounds across northeastern Montana. Top: Kids sign out rods and basic tackle they can use free for up to a week. The loaner program is aimed at encouraging kids to spend time outside exploring the natural world—and maybe catching a fish in the process (above right, above left).

of them single parents, coming in to check out rods," says Bonnie Williamson, director of the Havre-Hill County Library. "Some parents come back more than once with their kids. We encourage it."

Most of the rods and tackle are borrowed by kids—often two or three friends who then walk or bike down to the local fishing pond or stream. "The kids really enjoy being able to stop by and get these rods. It's been working really well," says Marty Dillon at the Qwik Stop in Brockton, where anglers have their choice of two full racks of loaner fishing rods.

The loaner program works the same as a library. Youngsters pick out a rod-and-reel package and sign it out, promising to return the gear in good working order within a reasonable amount of time. "We aren't fussy. If they want to keep it for a week, they can," says Williamson.

Each rod-and-reel combination is rigged with a bobber, split shot, and hook—basic gear for catching panfish, sauger, walleyes, trout, or catfish in the region's many reservoirs, ponds, and streams. Anglers must supply their own minnows, worms, and other bait, as well as any crankbaits, spinners, spoons, or other additional tackle.

To keep the fishing gear in good shape, FWP relies on volunteers who repair broken rod tips, untangle line, and maintain reels. Members from several Walleyes Unlimited chapters and other volunteers "adopt" loaner racks in their communities and keep the equipment in working order. A recent Eagle Scout project required the scout to promote and expand the program. FWP officials say they welcome any assistance.

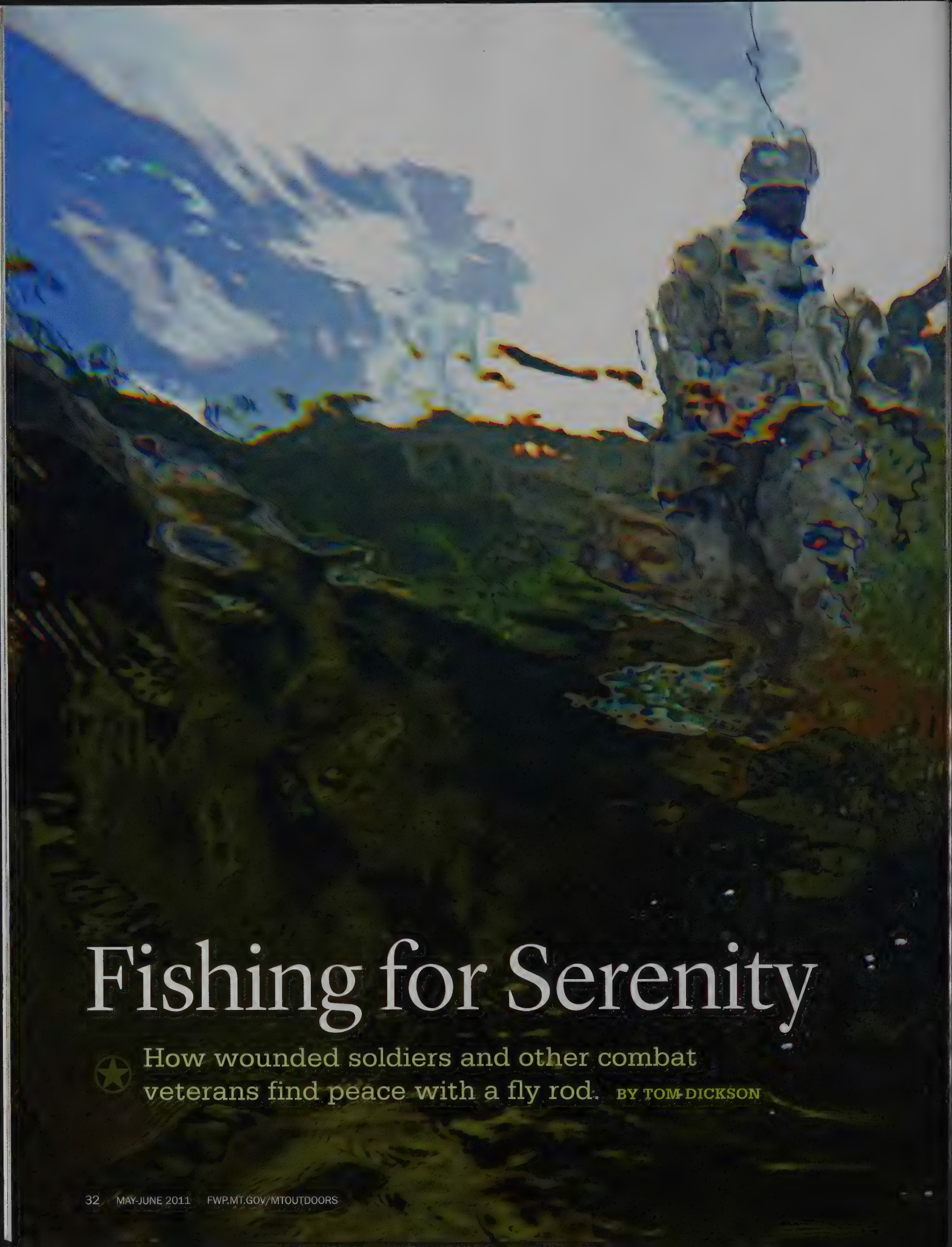
A few other FWP offices also loan fishing rods and gear. The south-central region headquarters in Billings provides about 40 rods. Most are borrowed by kids to fish Lake Elmo, at the state park where the office is located. In western Montana, some loaner rods are available at Salmon Lake State Park. And the department's regional headquarters in Kalispell offers about a dozen spinning and fly rods.

In northeastern Montana, the loaner program extends across hundreds of miles from Plentywood to Loma and nearly everywhere in between, including the tiny McCone County community of Circle. There, Warren Graves, co-owner of the Circle County Market, recently set up the store's first rack of rods. "Kids have been eyeing them all winter," he says. "Once the weather gets nice, I think the rods will be flying off the rack."

Ron Selden is FWP's regional Information and Education Program manager in Glasgow.

For more information, call the FWP regional office in Glasgow at (406) 228-3723.

CLOCKWISE FROM TOP LEFT: RON SELDEN/FWP; RON SELDEN; KENTON ROWE; KENTON ROWE



Fishing for Serenity

How wounded soldiers and other combat veterans find peace with a fly rod. BY TOM DICKSON

BILLY DEJONG / IMAGES ON THE WILDSIDE

Captain John Gehring lets out a whoop and raises his fly rod into the air, his reel singing as the taut line steadily pulls against the drag. Just one year ago Gehring and his helicopter crew of Montana National Guard aviators were in Basra, Iraq, helping an Army infantry division fight the United States' prolonged war in that country. But on this sunny summer day on the Missouri River near Craig, the soldier is battling nothing more dangerous than a big rainbow trout.

For some military men and women returning home from Iraq and Afghanistan, assimilating into normal life can be a psychological and emotional struggle, says Carroll Jenkins, a Helena psychiatric social worker who helps veterans. Stress, depression, and anxiety are commonplace. In some cases they result from Post Traumatic Stress Disorder (PTSD), which is diagnosed in 12 to 15 percent of returning soldiers. Those with head and spine injuries, limb loss, paralysis, and other physical damage also grapple with disability and pain as well as war's psychological aftershocks. "The stresses that come from combat are extremely challenging," says Jenkins, a veteran of the Korean and Vietnam Wars. "The body chemistry can actually change when a person is in a state of constant hypervigilance for long periods. Then they come home and there's no need for that anymore, and it can be real difficult to cope."

Fly-fishing, it turns out, can help. "Natural methods of relaxation such as fly-fishing can be like physical therapy for the brain and the spirit," Jenkins says. To help soldiers find that mental and emotional therapy, the Pat Barnes Chapter of Trout Unlimited launched Montana Healing Waters. The program teaches veterans to fly-fish and uses the sport's serenity and grace to smooth civilian reentry.

The program is a partner with Maryland-based Project Healing Waters Fly Fishing, a national program created by retired Navy Captain Ed Nicholson. While recovering from cancer surgery at Walter Reed Army Medical Center, the 30-year-veteran saw soldiers wounded in Iraq and Afghanistan struggling to cope with their new injuries and disabilities. A longtime angler, Nicholson thought wounded vets might benefit from time on the water. He started the nonprofit Project Healing Waters Fly Fishing in 2005. That same year Mike Geary, owner of Lewis and Clark Expeditions in Helena, contacted Nicholson and offered to take a group of combat veterans on a five-day trip down the Smith River. With the help of Trout Unlimited, the Federation of Fly Fishers, and independent clubs, outfitters, and fly shops, the program has since helped more than 1,200 wounded and other combat veterans.

> When I'm out fishing, it's a chance for my senses to say that nothing but positive can happen to me out here."

One of them is retired Army Captain David Folkerts, 30, who was severely injured by a roadside bomb in Iraq. The explosion blew him into the air and sent shrapnel into his face, legs, and left arm, leaving the hand paralyzed. At Walter Reed he met Nicholson, who invited him to fly-fish. "At first I didn't want to even try," Folkerts says. "I thought it would be too hard, and I didn't want to fail." But the wounded soldier soon learned to cast and, with a special device, reel in line with his rod hand. The next year Folkerts took part in a five-day float down the Smith. "That first day I caught a brown trout, and I thought: Hey, I can do this," he says. "At Walter Reed, I was so focused on all the things I couldn't do, but on the trip I started to see the joy that was still out there."

Folkerts volunteered to help on several other trips and was soon hired by Project Healing Waters as operations manager. He says most of the group's programs consist of a day of fly-tying and casting lessons and then anywhere from a day to a week of fishing. Funding comes from individual and corporate contributions, fund-raising events, and donated instruction, travel, guiding, lodging, meals, and equipment. The six-year-old organization now has nearly 100 programs nationwide. Each is run by a local fishing club that works with wounded and disabled veterans at Department of Veteran's Affairs and military hospitals and medical centers, such as Fort Harrison VA Medical Center in Helena.

A WELCOME TIME OUT On the Missouri River near Craig, National Guard Captain John Gehring holds on as a rainbow trout surges downstream. The helicopter crew commander, who spent time in Iraq war zones, says fly-fishing provides a "time out from the struggle of readjusting."

TOM DICKSON

Tom Dickson is editor of Montana Outdoors.

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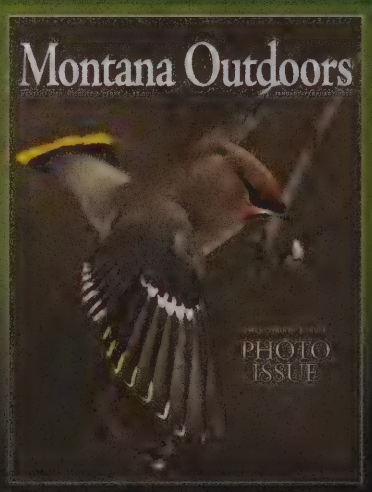

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Army Staff Sergeant Brian Mancini nearly died in 2007 after an armor-piercing explosive blew up the Humvee he was riding in during a firefight in Iraq. Mancini lost one eye, most of his forehead, and his right cheekbone. He spent three weeks in a coma, then underwent 20 operations at Walter Reed. "People see the physical scars, but they can't see where all the emotional healing has to take place," says Mancini, 32. "There are some things doctors can't operate on and can't prescribe pills for."

Since his injury, Mancini has lost his military career and his marriage, and now faces financial hardship. "So obviously a lot of healing needs to take place outside the hospital," he says. "That's where Project Healing Waters comes in. It helps with physical things like balance and hand-eye coordination, but, more important, it provides opportunities for healing to take place in your heart."

Fly-fishing may seem like an odd way to help wounded soldiers. The sport requires dexterity, keen eye-hand coordination, and intense concentration—challenging for able-bodied anglers, much less those with one arm or impaired vision.

Mancini, who has participated in Healing Waters trips on the Smith and Clark Fork Rivers, says for him the therapy of fly-fishing comes from the intense sensory engagement. "You're in the middle of a beautiful stream on a sunny afternoon, feeling a cool breeze on your skin, seeing the mountains around you, hearing the trickling of the water—all of that gives you hope and allows you to believe that life really does have more to offer," he says. "Compare that to combat, where you have this negative bombardment of your sight, smell, and hearing, and all your senses are on high alert because your life is on the line. When I'm out fishing, it's a chance for my senses to say that nothing but positive can happen to me out here."

According to Jenkins, learning to master technical skills like tying flies or casting 40 feet of line provides wounded veterans with a strong sense of accomplishment. "I had one client, an Iraq combat veteran with the Montana National Guard, who talked about what she called 'a sense of complete satisfaction and complete balance,' that came when she learned to cast," he says.

Another reason fly-fishing works so well, adds Folkerts, is the scenery. "When you're trout fishing, you're in these incredibly beautiful places," he says. "The peace and tranquility there is the complete opposite of the violence and chaos you experience on the battlefield."

Mancini admits fly-fishing can be physically challenging. "There are times I'll have trout rising all around me and I can't get the depth perception with my one eye to tie on a fly," he says. "I have to ask the guide to tie it on. But that's the thing about Project Healing Waters: People are there to help when you need it, and eventually you learn you can

SUCCESS ON THE SMITH "At first I didn't want to even try [fly-fishing]," says retired Army Captain David Folkerts, severely injured by a roadside bomb. "I thought it would be too hard, and I didn't want to fail." Folkerts says a Montana fly-fishing trip with Project Healing Waters changed his mind.

PHWFF

MOGA

Greg Stube, a Green Beret who served in Afghanistan, with a Montana elk he shot as part of a week-long hunt provided through the Big Hearts Under the Big Sky Program.

Many groups help veterans recreate outdoors

Other groups also use outdoors recreation to assist vets in returning to ordinary life. Washington, D.C.–based Operation Second Chance brought four vets to Montana last summer for a week of rafting on the Yellowstone River and horseback riding into the Absaroka-Beartooth Wilderness. The greater Red Lodge community donated the entire trip—including lodging, activities, and meals.

A similar organization, Buck Up for Wounded Vets, sponsors an Operation Valor Program that uses raffles to raise money to take returning soldiers on outdoors adventures. One trip last fall brought seven wounded veterans on a five-day trophy mule deer hunt in the Missouri Breaks. Other vets have been provided free Montana hunts through the Wounded Warrior Project, which supports injured military men and women recovering at Walter Reed Army Medical Center and helps them transition back to duty or civilian life.

Through Big Hearts Under the Big Sky, a program of the Montana Outfitters and Guides Association, outfitters such as Russ and Carol Greenwood of Doonan Gulch Outfitters provide free hunts to disabled veterans.

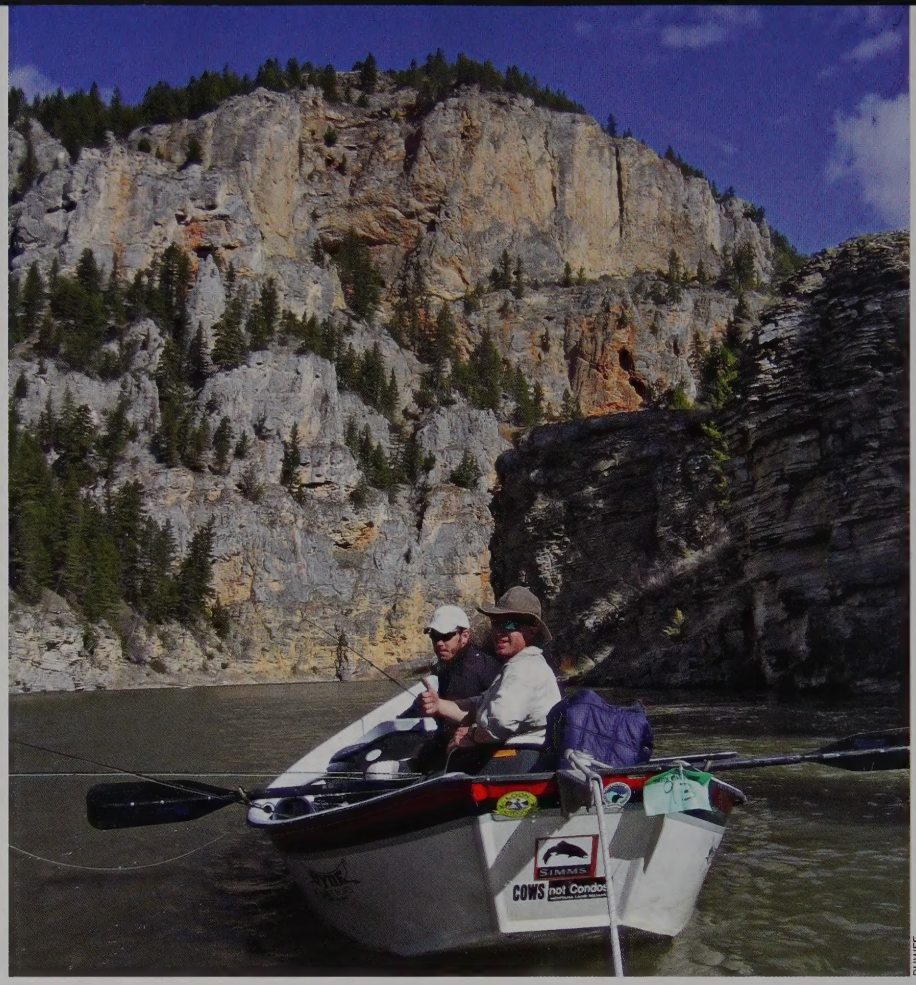
"I can't tell you how often I think of my time on the water. A memory like that is incredibly helpful to me."

actually do many of these things yourself. You realize that life is far from over."

Healing Waters participants aren't the only ones who benefit. The program's many volunteers say they enjoy giving back to men and women fighting for the United States overseas. "What we try to do is help them find some normalcy in their lives," says river guide and fishing book author Trapper Badovinac, Helena, a Vietnam vet who has guided on several Healing Waters trips.

Geary says donations of time, money, and equipment for trips occur regularly. "People come out of the woodwork to assist. I think helping disabled vets is something that binds us all," he says. Jenkins notes that the involvement of local lodges, fly shops, guides, and others adds to the therapeutic benefits. "It's important for veterans to see their community supporting what they've done and welcoming them home," he says.

Most soldiers returning from combat zones are not physically injured or diagnosed with psychological trauma. But all endured, and continue to experience, some level of stress. "There was a constant threat to our operating base and aircraft every day," says Gehring several months after his fishing trip on the Missouri. "You're operating in surroundings where you have to be in an intense state all the time. I came home to a divorce and a custody battle for my three sons. It's been tough. Those days on the Missouri were a complete release from that. I can't tell you how often I think of my time on the water. A memory like that is incredibly helpful to me right now."



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SAFE SURROUNDINGS Part of the healing process, say Healing Waters participants, comes from spending time on beautiful rivers like the Smith (above). But equally important is shooting the breeze with other combat veterans afterward (Smith River campsite, below). Soldiers say spending time in tranquil settings with others with similar physical disabilities or combat experience can go a long way toward repairing psychological wounds. "When I was in the hospital, I didn't want to talk to anyone else who hadn't been through what I'd been through," says David Folkerts. "Then I went on the Smith River trip and was with guys who were in the same situation, and we built some real camaraderie. During that trip I was able to see for the first time in a long time how big and beautiful the world is."

GARYKRAMER.NET

Turkey vulture

Cathartes (a Latinized form of the Greek word *kartharsis*, meaning "purifier," referring to the scavenger's biological role of cleaning up dead things)

aura (a Latinization of the native Mexican word for the bird, *auroura*)

BY LEE LAMB

Ask most people about turkey vultures (also known as buzzards) and they'll likely describe the birds as ugly, repulsive, and downright creepy. Because of old Western movies and books, the word "vulture" or "buzzard" evokes images of winged scavengers circling high over a dying cowboy sprawled out in the desert, their beady eyes gleaming and beaks drooling. That's certainly what went through my mind when I saw my first turkey vulture during a family trip. A high school student at the time, I had read plenty of Louis L'Amour novels and actually shuddered as we drove past the seemingly sinister beast perched on a roadside fence post.

Identification

It's hard to mistake the turkey vulture for anything else except maybe a wild turkey, for which it is named (a gobbler also has a wrinkled, red, nearly featherless head). The vulture's bald pate has an important purpose. It allows the scavenger to stay relatively clean even when feeding deeply in a dead animal's carcass. Blood and other residue clinging to its small head eventually bake off in the sun.

Montana native Lee Lamb lives in Coeur d'Alene, Idaho.

Turkey vultures weigh up to 6 pounds. Blackish-brown feathers cover the bird's body, which measures 25 to 32 inches long. A turkey vulture's yellow feet have surprisingly short talons, possibly explaining why this bird of prey prefers to feed on dead animals rather than hunt live ones.

Food

Turkey vultures in Montana primarily eat carrion—everything from roadkill to dead livestock to fish carcasses washed up on shorelines—though they'll also consume maggots, worms, and other invertebrates while foraging on carcasses. Though repulsive, their eating habits make the world a little more sanitary for the rest of us.

Flight

While homely on the ground, the turkey vulture is lovely to look at in flight. Its long, broad wings stretch 6 feet from tip to tip, with dark gray flight feathers set against black wing linings. In flight the bird holds its wings in a shallow V, teetering from side to side to maintain stability and lift while riding warm air thermals. This allows the vulture to "float" in the air for hours at a time with only an occasional wing flap. A circling vulture does not necessarily indicate a dead animal below. The bird may be gaining altitude or searching for food.

Behavior

A turkey vulture soars over large distances, using its sharp eyesight and highly developed sense of smell to locate food. If it finds a carcass before other scavengers arrive, and the hide is too thick for its beak to pierce, it waits for another animal to expose edible portions.

Soaring vultures watch each other; when one finds a carcass, others move to the site. The birds don't like to share a meal, however, so newcomers usually wait their turn from a distance until an existing diner moves off. Vultures gorge themselves until their crops bulge. Then they sit sleepily while digesting the rotting meat. Powerful stomach acids kill bacteria and disease.

Nesting

A female turkey vulture lays two blotchy white eggs on a bare cliff ledge or the floor of a mammal burrow or small cave. Young are born covered in white down and with dark gray faces. Both parents care for the young, feeding them regurgitated food. The smell of vulture vomit is so repulsive it keeps predators away.

Range, Habitat, and Status

Turkey vultures are common from southern Canada south throughout the United States, Mexico, and Central and South America. Montana's turkey vultures range statewide during summer, living in dry, open country including badlands, grasslands, farmlands, and open woodlands. In fall the birds migrate south for warmer climes.

Montana's turkey vulture population appears healthy and stable. As long as other animals continue dying, these dark scavengers should continue to do just fine.

On June 13, 2011, Makoshika State Park near Glendive celebrates its 20th annual Buzzard Day, commemorating the return of turkey vultures to the park each spring. The event includes several running races, guided hikes, and a concert at the park's outdoor amphitheater. For more information, call the park at (406) 377-6256.

Montana State Library
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PARTING SHOT

BUGZILLA A giant salmonfly readies for flight along the bank of the Madison River near Cameron. Learn more about Montana's biggest trout bugs on page 24. Photo by Phil Farnes.

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